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APPLETON SERIES IN SUPERVISION AND TEACHING

EDITED BY

A. S. BARR AND WILLIAM H. BURTON

THE SUPERVISION OF SECONDARY SUBJECTS

APPLETON SERIES IN SUPERVISION AND TEACHING

EDITED BY
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Associate Professor of Education in the University of Wisconsin; Formerly Assistant Director in Charge of Supervision in the Detroit Public Schools.

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THE SUPERVISION OF SECONDARY SUBJECTS—*Edited by* WILLIS L. UHL, *Dean of the School of Education in the University of Washington, and others.*

THE SUPERVISION OF ELEMENTARY SUBJECTS—*Edited by* WILLIAM H. BURTON *and others. In preparation.*

RURAL SCHOOL SUPERVISION—*by* C. J. ANDERSON. *In preparation.*

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THE SUPERVISION OF SECONDARY SUBJECTS

EDITED BY

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PROFESSOR OF EDUCATION AND DEAN OF THE SCHOOL OF EDUCATION IN THE UNIVERSITY OF WASHINGTON

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PREFACE

This volume has been prepared in response to numerous requests for specific information about the supervision of secondary-school subjects. Each of the contributing specialists has summarized the best of modern principles and practices within his department.

Two forms of procedure have been depended upon to give unity and coherence to this volume. First, a carefully formulated outline was placed in the hands of each contributor before writing was begun. Although the contributors were asked to use the outlines as indicative of topics to be discussed, they were advised that their own judgments with respect to details and topical headings would be respected. Second, a considerable amount of editorial work has been expended upon such matters as punctuation, topical arrangement, footnotes, and so forth.

As the chapters now stand, each can be read apart from the others and thus used as a basis for discussion in conferences or staff meetings or for private reading by either supervisors or teachers. This volume will, the authors hope, aid principals, supervisors, and classroom teachers—the latter both directly by their own reading of appropriate chapters and indirectly by their conferences with supervising officers. As the needs for bibliographical materials vary among readers, no attempt has been made to delete references merely for the sake of brevity.

Gratitude is here expressed to the contributors for their painstaking efforts, to the editors of this series for their intelligent counsel, and to publishers for their permission to reprint passages from books, magazines, and pamphlets.

W. L. U.

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THE SUPERVISION OF SECONDARY SUBJECTS

CHAPTER I

THE SCOPE OF DEPARTMENTAL SUPERVISION

The general supervisor's relationship to departmental problems. Directors of secondary schools are charged with the responsibility of so managing their institutions that their four million pupils will derive maximum benefit from academic life. To accomplish this ambitious project those directors of education are provided at great expense with buildings, staffs of teachers, equipment, and grounds. Besides the laborious administration required for the skillful management of these provisions, such directors assume the direct governance of departmental teaching.

The need for assuming this function of direct governance —the function of the general supervisor—comes from two sources. First, many, if not all, teachers can be improved by intelligent supervision. Second, many interdepartmental problems require integration and coördination. The successful supervisor is, therefore, he who most wisely directs the work of individual teachers and, at the same time, discovers and links together into an educative system the instructional experience provided for pupils.

The need for teacher improvement delivers the first challenge to the supervisor. Teachers' needs are diverse; many teachers are inexperienced, whereas others, though experienced, are inexpert. The inexperienced teacher may be

able to profit by counsel and may require only occasional suggestions. The inexpert but experienced teacher may require painstaking direction or redirection. Many teachers are deficient in the subject matter of their courses; others, though well grounded in certain fragments of subject matter, are so restricted by ignorance of the scope of their courses that they fail to show pupils any of the further reaches of their departments. Closely related to the malady just named is that which arises from a teacher's ignorance of the best knowledge of his department of instruction; this disorder often follows an attack of inertia which leaves the teacher unaware of recent additions of subject matter, of progressive thought, of improved practice, and of research. To cope with such teacher difficulties, the supervisor must be not only a professor but also a practitioner of educational principles and procedures.

In the pursuit of his function as general supervisor, the educator must recognize certain limitations of his office and his ability. One should hesitate perennially to direct in detail the activities of any teacher who is sufficiently intelligent and resourceful to occupy a teaching position in a reputable school system. The remark of Confucius may apply here: he maintained that if a figure had four corners, any pupil who was worth instructing could, after having one corner suggested to him, supply the other three. Any teacher who needs constant, detailed supervision should, if retained, have his salary charged against the school fund for depreciation and not against the fund for instruction. To the supervisor who, by over-minute supervision, coerces capable teachers, fiscal experts would probably allocate no financial reward!

The general supervisor's ability, though extensive, is seldom extensive enough to enable him to claim the specialist's expertness in all departments of his school. If, therefore, his teachers have been wisely selected, many of them

will possess fuller departmental knowledge, of a sort, than he does. But this severe limitation does not preclude his knowing the place of each department in a system of education, nor does it relieve him of the responsibility of guiding the solution of many problems which few specialists can either see or solve.

Fundamental considerations for supervisors. Six fundamental considerations lie at the base of supervision. First, the supervisor must formulate a defensible system of general educational objectives. Into these general objectives must be infused those that give meaning to the work of each department. Second, he should be familiar with those activities of pupils and teachers that make possible the attainment of his aims. Third, the materials of instruction must be considered so that appropriate activities can be planned for the attainment of objectives through the mastery of subject matter. Fourth, general teaching procedures, together with methods and devices for conducting these procedures, must receive attention. Fifth, since no pupil can master all the details of a curriculum, and since few can profitably master their curricula as completely as can the most brilliant student, standards of achievement must be formulated. Sixth, all supervisors should know the extent to which academic activities have been successful and therefore need to formulate plans for the measurement of accomplishment. The remainder of this chapter is devoted to these six basic considerations.

Objectives of secondary-school subjects. All great teachers for over two thousand years have formulated the objectives of education systematically, and many of those teachers have recorded their views upon the matter. Consequently, there have been numerous systems of objectives. By analyzing a score or more of these systems, one discovers, first, that the principal difference among them is that certain theorists have been more specific than others.

Analysis shows, second, that, taken in their full context, these systems vary little in the connotation intended by their authors, and that no confusion need arise from the multiplicity of terms employed by different theorists.

Certain modern philosophers of education may chide the ancients for indefiniteness. The ancients might as well rebuke the moderns for their lack of systematic philosophy. As early as the fourth century, B.C., Isocrates stated his objectives in the following terms: (1) the cultivation of breadth of view, which he explains in terms of language activities, general social activities, and mental fitness; (2) the cultivation of desirable moral attitudes, which connoted citizenship activities; and (3) the cultivation of an ideal of thoroughness and solid work, which, for the adolescents in question, included nonvocational and vocational, practical activities.[1]

To these general objectives of an ancient teacher, Bobbitt, one of the modern leaders in developing unmistakable terms and specific objectives, adds health activities, besides making the objectives somewhat more definite than did Isocrates in any work which has been transmitted to us. Quintilian, however, who lived in the first century of our era, was somewhat more explicit than most philosophers of the present day. For example, in his treatise on a literary education, he cites a larger number of specific objectives than does Bobbitt in discussing English language and literature and foreign literature.[2]

Without continuing a comparison of ancient and modern objectives, it is enough to say that the supervisor must de-

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[1] For a further discussion of Isocrates, see the author's *Secondary School Curricula* (Macmillan Co., 1927), pp. 48-49. For a statement of objectives in terms of the activities named above, see Franklin Bobbitt, *How to Make a Curriculum* (Houghton Mifflin Co., 1924), pp. 8 *ff.*

[2] *Cf.* Quintilian, *Institutes of Oratory* (G. P. Putnam's Sons, 1921; four volumes), and Bobbitt, *op. cit.*, Ch. vi and xvi-xvii.

cide among the formulations of objectives and select that which best fits modern educational conditions. Bobbitt's formulation of general objectives seems to meet this requirement and is therefore cited as follows:

1. Language activities
2. Health activities
3. Citizenship activities
4. General social activities
5. Spare-time activities
6. General mental activities
7. Religious activities
8. Parental activities
9. Nonvocational practical activities
10. Vocational activities

When objectives are stated in this form, one must, as Bobbitt does, apply criteria that will point out the specific kinds of activities desired in each of the ten groups. Bobbitt, like many other modern philosophers, derives his criteria from comprehensive activity analysis. Erasmus, Welton, and Bode place greater reliance upon criteria derived by philosophical interpretation.[3] The application of philosophical interpretation should, however, lead no one to suspect that such theorists as Bode are any less scientific than their contemporary activity analysts; for, as Mead demonstrates, rigorous philosophical testing is one of the touchstones of scientific method.[4]

One may accept any comprehensive, intelligible formulation of objectives, as Bobbitt's, and, by adequate interpretation of the items, include the desirable results of secondary education. In order to apply these ten objectives to the supervision of a given department, one can (1)

[3] Erasmus, *De Civilitate Morum;* John Welton, *What Do We Mean by Education?* (Macmillan Co., 1915); B. H. Bode, *Modern Theories of Education* (Macmillan Co., 1927).

[4] G. H. Mead, in *Creative Intelligence* by John Dewey and others (Henry Holt & Co., 1917), Ch. iv.

determine what specific contributions are made by the department and then classify these contributions according to the general objectives; or, by proceeding in the opposite direction, one can (2) determine what specific contributions should be made and then seek to find departments which can make the desired contributions. In either case general objectives enable the supervisor to formulate the specific objectives of all departments into integrated, manageable groups. Objectives serve then as guides and as criteria in the supervision of the several departments of the school; general objectives guide the planning of the entire school and pervade all the other basic considerations named in the preceding section of this chapter, while specific objectives, by guiding the planning of work within each department, give meaning and definiteness to general objectives.

Teacher-pupil activities. Many classroom activities of teachers are, as Barr has shown, of little, if any, educational significance.[5] The consensus of educators is that many pupil activities are also of relatively small importance. The supervisor's duty requires him, therefore, to select and encourage significant teacher-pupil activities.

The choice of activities which are to be encouraged will depend upon various things. First, the objectives of education will provide a basis for a preview and a continuous checking of the problem. The conflict of objectives has to be faced in such issues as the relation of objectives that require for their satisfaction long periods of sedentary pursuits to objectives that require considerable amounts of physical activity in outdoor play. Second, children's nature and needs require consideration in planning the activities of both sedentary and physical pursuits. In conformity with this principle the ardent physical director must have a care for cardiac conditions as well as for interscholastic victories, and the zealous pedagogue in social

[5] A. S. Barr, unpublished materials.

studies must recognize the need for developing concepts upon the basis of his pupils' present attainments rather than upon attainments for which one might hope. Third, the demands of different departments are so unlike that one cannot in all cases prescribe for a given course activities that have been valuable in another department. For example, a course that emphasizes the development of skill can properly be subjected to forms of animated drill which would be quite out of place in a course whose emphasis is upon appreciation or enjoyment. Fourth, the fullness of self-realization required for any successful educative process requires that the activity of both pupils and teachers be of the proper sort, both quantitatively and qualitatively. No hope can be extended to mentally crippled teachers who still attempt to discipline their pupils by compelling them to memorize literary or moral gems and, next day, expect the same pupils to profess interest in literature. When teachers find out what their chief duties are and what are the reasons for the existence of their own departments, they begin to attune the teaching and learning mechanism. Prior to that time they overlook opportunities for the most important activities and, conversely, stress activities that ought either to be eliminated or relegated to the background.

As there are significant differences among teachers as well as among pupils, one treads dangerous ground when one condemns unqualifiedly certain activities and with equal force recommends others. In the chapters that follow the authors have, in many cases, cited typical errors of teachers. These citations should be understood as indicating probabilities. When, for example, Hill criticizes the common practice of teachers of asking an excessive number of questions during a single period, he refers to the tendency to ask many badly organized questions to elicit fragmentary or even encyclopedic responses. He would,

of course, agree that if many questions, well organized about a small number of pivotal matters, were asked, the effect of the activity might be excellent. There are, however, other activities which seem, in no case, defensible. Such activities as those cited by Miss Logasa belong to this group when, as examples, she alleges that certain teachers mention library activities in a somewhat deprecatory manner and that assignments are sometimes given in so vague a manner that pupil activity is misdirected or altogether stifled. In many cases one must still speak in general terms and maintain that teachers with certain types of personalities can utilize activities which would fail at the hands of others. Such a statement probably implies only that personality itself is often considered as incorporating certain qualitative attributes which are recognized chiefly as they lead to desirable activities.[6]

Differences among pupils frequently interfere with a correct appraisal of their activities. For many pupils oral activities are probably effective in inducing desirable self-realization and in indicating mastery. For certain pupils, however, speaking is such a difficult adventure that the necessity for it drives thought away; while for other pupils speaking is such a carefree occupation that quantity may bear an inverse ratio to quality. Another difficulty in appraising pupil activity arises from a tendency of pupils to react in ways which they have found successful with their teachers. Indeed, the penalty for refusing so to react has, according to persistent rumor, interfered seriously with teachers' ability to judge their pupils' scholarship.

In the employment of the suggestions which the authors of the following chapters make about activities, the supervisor must consider the value of each activity under given

[6] *Cf.* W. L. Uhl, *Principles of Secondary Education* (Silver, Burdett & Co., 1925), Ch. v.

circumstances. Such a consideration will be aided by appraising activities with respect to each of the items which have already been described as the fundamental considerations for supervisors. As a general principle for guiding the arousal of suitable pupil activities, John Dewey's comment is of supreme value: "Perhaps in no other way could so great improvement be brought about in American schools as by teachers everywhere and with one accord seeing to it that in every lesson the pupils know what it is they are to learn and what they must do in order to learn it."[7] Or, as the official manual of German higher secondary schools instructs the supervisors of that country:[8]

> All instruction is fundamentally "activity-instruction" (Arbeitsunterricht). It requires that in choice of materials the teacher shall always consider, not the learning merely, but rather what powers in the pupil—particularly, independence of judgment, of feeling, of imagination and of will—can be developed and heightened. The necessary principle of such instruction is that the class exercises consist in coöperative give-and-take under the leadership of the teacher. The important thing is to give this activity a character that befits both the nature of the pupils and the educative purpose of the school. Its great and serious aim is to bridge the natural gap between the certain acquisition of knowledge, without which higher mental activity is impossible, and the acquisition of the power for independent work, without which mere knowledge is unfruitful.

The many activities to which the term *extracurricular* is applied are of commanding importance. So far have these activities passed beyond the rank of being merely tolerable, that they are now recognized as basic for many classroom projects. Indeed, one has difficulty in deciding whether certain activities are extracurricular or curricular. If, for

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[7] From an unpublished lecture.

[8] Translated by W. S. Learned in *The Quality of the Educational Process in the United States and Europe*, The Carnegie Foundation for the Advancement of Teaching, Bulletin No. 20, 1927, p. 13.

example, a pupil in the applied arts department prints a poster, the activity may be either unit of class work or a favor for the baseball team for whom the poster was printed. Likewise, reading activities, athletic events, musicales, and hikes may be either curricular or extracurricular, depending on whether or not they are integral portions of departmental courses. Perhaps one should go much further and say that, in so far as teachers are resourceful enough to employ spontaneous, extracurricular activities in their teaching, such activities are both curricular and extracurricular according to the observer's point of view. Clearly, the supervisor should encourage teachers to investigate pupils' free activities to find points of departure, favorable approaches, illustrations, and applications for curricular use.[9]

The materials of instruction. Classroom teachers are *ex officio* the most important curriculum makers in America. They have in their power the making or the overthrowing of the departments in which they work. Skillful teachers of Latin show their pupils the many paths through which Latin leads, whereas pedantic teachers seldom advance beyond paradigms and partitive genitives. Unfortunately, the pedants are often so far in the ascendancy that their department itself connotes desiccation to many school administrators. Other departments have had equally disastrous experiences with ill-directed teachers. Home economics, for example, is avoided in many schools because pupils see clearly that the course fails to fulfill its prospectus. The authors of Chapter IX have, however, by carefully planned "follow-up work," shown inexpert teachers how to convert this subject into well-organized units which treat the general aspects of the

[9] *Cf.* W. L. Uhl, *Secondary School Curricula* (Macmillan Co., 1927), pp. 398 *ff.*

subject and also meet the requirements revealed by such activity analysis as those described in that chapter.[10]

Although general supervisors are not proficient in all the departments of their schools, they can prepare themselves as expert counselors in the selection and organization of content in all departments. Such preparation enables the supervisor to judge the value of content for the purposes for which a course is offered, to judge the relative emphasis needed by a unit of subject matter, and to suggest additional material which may be useful for illustrative or other purposes. Furthermore, the supervisor can counsel the teacher upon the close relationship between pupil activities and content; that is, he can show that the curriculum is fundamentally a sequence of classified activities—science activities, literary activities, creative art activities, and so on. Such counseling will abate any tendency of specialists to view subject matter as valuable *per se* and will, at the same time, show them how to provide an opportunity for pupils to master subject matter by the only process known, by self-realization or creative learning. Finally, the general supervisor can detect and lay plans to avoid the wasteful duplication of subject matter in successive courses within the same department. He will perhaps advise a certain amount of conscious repetition for purposes of articulation, but he will delete such indefensible cases as Osborn found in his survey of elementary, secondary, and collegiate courses.[11]

The egregious lack of organization of the work of secondary-school curricula has received trenchant criticism for a century. Able critics contend that little general improvement in this respect has been made during this

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[10] *Cf.* also Uhl, *op. cit.*, Ch. xv for a further account of teachers' relationship to curricula.

[11] W. J. Osborn in a forthcoming report for the Commonwealth Foundation.

time. The comments of Alexander Bache in 1839 [12] bear a singularly close resemblance to those of Learned in 1927. Learned says: [13]

The curriculum is a rope of sand, without texture or organization. Effective education through related ideas is thereby sacrificed to the mere registering of information. . . . Convinced that knowledge is power, we have assumed that presenting information is identical with conferring knowledge, and have hastened to make broad this easy and royal road to an educated democracy. Information on almost any subject can easily be formulated into convenient units. And it is possible for a mind even of commercial advantage, or any one of a dozen other extraneous motives, to take in and give out this information in recognizable work or paraphrase without seriously knowing or caring what it is all about. This is positively all that the school, and usually the college, requires, and of this it asks but a fraction—60 per cent. For fear of evaporation the process is checked up at once—daily recitation, written review, monthly test, and term examination. These concluded, responsibility ceases, and "credit" is recorded, of which no future misstep, even though it discloses total ignorance, can ever deprive the pupil.

Zeal for our broad, trunk-line school, where every child of democracy may come and choose the information that most attracts him, has blinded us to the fact that "power" disappears under such a régime. The knowledge that is power presupposes a mind actively at work and bent on the process of self-education. Such a mind requires the meanings and relations of its information, and finds little advancement in minute and disconnected masses of fact that must, from the nature of our system, stand neatly alone. Instead of developing an agency to attend, supply, and encourage a pupil who is using his own mind, we have done our best to devise a vehicle that will *carry* the minds of as many as choose to get on board. To graduate from either high school or college to-day may hardly be rated as, of itself, an intellectual achievement. It is at best a moderately worthy exhibition of certain moral qualities.

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[12] In his *Report on Education in Europe*, pp. 362-535. Summarized in Uhl, *op. cit.*, pp. 177-178.

[13] *Op. cit.*, pp. 5-6.

So long as the American secondary school was only four years in length there was perhaps greater reason for kaleidoscopic curricula. Now, with a six-year secondary school, that sort of exoneration has departed. America looks forward to, and in many places enjoys, a six-year program of secondary education which should not sacrifice scholarship too freely in the name of specious novelties. An American can consider only with the embarrassment which results from an unfavorable comparison what might happen to the intellectual fiber of the youth of his country were the following a description of our curricula:[14]

> Once a subject is started, it *grows* from its point of departure to the end of the course. Hence no study is begun that is not profitable for a steady and progressive development, or that is not itself a chapter in the organic process of such a development. Since education consists essentially in being conscious of significant relationships, and in being able to perceive them, no pains are spared to maintain the integrity of all possible connections, between subjects as far as practicable, but at all events in the related conceptions of a single subject as it unfolds.

American educators may reply to this criticism by saying that Learned has overlooked exploratory values. He may, however, counter by citing two points on exploratory values: first, investigations of pupils' interests in all school subjects indicate that all subjects have universal appeal—pupils sometimes cite English grammar and at other times mathematics as their first choices; the preference appears to depend upon how the subject matter is treated more than upon the intrinsic nature of the content.[15] Exploration is, therefore, so far as interest is concerned, apparently for the purpose of allowing pupils to discover whether or

[14] *Op. cit.*, p. 9.

[15] J. C. Brown, and J. H. Minnick, "A Study of the Preferences of Secondary School Pupils for the Various Subjects," *Educational Administration and Supervision*, October and November, 1915, Vol. I, pp. 527-545 and 599-610.

not in their schools a given course is effectively offered. Second, exploratory values are enhanced rather than diminished if courses are so knit together that a new subject is not needed every month as fresh territory. The exploration which a pupil of any school or college grade conducts after he has mastered the elements of the subject may be quite as valuable educationally and vocationally as that which he conducts for a month or a semester under the bad guidance of an inferior teacher. In other words, the basic values of education must be the results acted upon, balanced against superficial values, if America's supervision of materials of teaching is to equal that of Europe. In the passage which follows Learned suggests remedial treatment for supervisors and administrators:[16]

> The simplicity of these stout longitudinal threads of the curriculum is supplemented by an extraordinary richness in the development of each subject itself. European schools have not fallen prey to the utter disorganization that has overtaken the American secondary curriculum, yet the Prussian provisions allow abundant latitude for genuine differences in the aptitudes of capable minds by pronounced shift in emphasis. One boy may devote ninety year-hours to Latin and Greek, while another spends eighty on science and mathematics in a nine-year course that progressively knits up the important features of these fields into a significant whole and relates them in every possible way to the outcome of his classical study. The effective use of separate institutions comes here to light; such a course is not the series of isolated, interchangeable units in mathematics and science characteristic of the American school with its myriad aims; it is deliberately organized throughout with sole reference to the needs of the classical student.
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> The degree of profitable "enrichment" attainable in any given curriculum of study depends upon the number of valuable ideas that can be brought into a coherent relationship and, thereby, given a significant and lasting place in the pupil's mental scheme of things. The American high school presents a long list of subjects that may be chosen in yearly or half-yearly fragments,

[16] *Op. cit.*, pp. 10-11.

each tending to be self-contained owing to the fact that under a system of free election it is impossible to count on any two pupils having had the same previous work. Beginning after an abrupt break with the eighth grade, a pupil may start out with English, Latin, algebra, and general science. After the first year mathematics may be avoided if algebra grows distasteful, and Latin may later be discarded for French. English must usually be retained, and detachable units of history, botany, physics, Spanish, civics, etc., eke out the curious medley of stipulated "credits." Under such a system nominal "enrichment" becomes actual impoverishment, for the simple reason that the more elective subjects are thus mechanically added to the bill of fare, each tied up by itself with a final examination and sealed with the inescapable "credit," the more completely do we cut off the essential and vitalizing connections of one body of ideas with another, whether in the same or different fields. No period of history may presuppose or seek to reinforce a knowledge of any other; physics itself may be divided and presented in two isolated chapters; and a study of biology must dispense with an indispensable foregoing chemistry. Even where there is apparent sequence, as in English, or in small schools where offerings are limited, the individual term courses tend, nevertheless, to be organized and conducted without reference to what precedes or follows; except where it is unavoidable (*e.g.*, Latin, French, etc.), such sequence as exists is not essential or utilized. The really significant ideas on which thought depends are thus cropped and clipped until there remain just what the American secondary curriculum is to-day—detached bundles of information, that cannot be digested and retained because they are not properly related. It would be difficult to find a better illustration of Henry Adams' shrewd remark that "nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts."

The only way to remedy the evils just described is to simplify the curriculum and enrich the teacher, which is precisely what the European schools do. In Prussia a briefly sketched plan of general objectives is set up by the government to keep the schools approximately together. Within this loose frame the masters of the individual schools have become in recent years wholly free to formulate the curriculum and choose the material, topic by topic, taking care that the inner cross-connections between subject and subject from point to point are duly brought

out. The study of German in the classical *Gymnasium,* for example, emphasizes constantly the influence of classical ideas on German literature and spirit, and in turn the reaction of the German mind in assimilating it. When teachers in other subjects can supplement the instruction, they are freely utilized. Topics common to two subjects, such as literature and history, are carefully assigned, or else divided as to point of view. Thus through unremitting deliberation and frequent conference of a small group of competent masters the whole curriculum represents an intelligent coöperative meshing of instruction, whereby each master is fully aware of what his colleagues are doing, and knows what general resources in the pupil will be available to meet his particular demands.

Within the subject itself, when handled as a unit, the opportunity is used to fix clearly the main ideas by foreshadowing and preparing for them in early years, by developing them in as wide relations as possible, and by fixing and reinforcing them with constant restatement and fresh application. A frame of this sort can hold successfully a wealth of detail that is out of the question when it is supplied merely as information from detached sources to pupils who can be held responsible only for what is in hand at the moment. The first process builds an orderly mental structure that gives permanent satisfaction; the second leads to cramming, confusion, and the effort to escape.

Teaching or learning procedures. In his novel, *Joan and Peter,* H. G. Wells, who is a diligent student of education, described the flightiness of certain schoolmistresses. Those teachers were not trying to be chameleonlike in their pedagogy, but were instead attempting to practice the season's latest fashions in education. They failed either to see that they were misled by devices that may or may not have been based upon sound principles or to see that the sources of the fountains from which they obtained their pedagogical wisdom were neither inspired nor scientific. And the same variety of illusioned teachers can be found to this day in America!

Fundamentally a successful learning or teaching procedure has a few characteristics which should be clear to

every one whose duties include the planning of procedures. A knowledge of these characteristics enables one to classify old practices and so-called modern inventions with reference to their fundamental, pedagogical merit and, at the same time, to avoid being stampeded by the glare of pseudo-scientific tinsel. The purpose of this section is to state such characteristics or principles and show their relationship to supervision.

1. *Every procedure should at the outset orient the learner.* As Dewey says in the quotation cited above, the learner has not only a right to knowledge of what the process is about, but also, as a learner, has great need of such information. This principle should not be interpreted as meaning that no element of surprise may be introduced unannounced in the course of the learner's progress or that the same degree of information is always necessary. If, for example, a teacher of English were introducing a unit of poetry in which both "Ulalume" and "Annabel Lee" were included, he would need little if any preface for the latter; while, for the former, a directing of attention to the sheer music of the poetry and the beauty of the lines might save pupils from despair of enjoying the selection. In general this principle means simply that no procedure should be conducted unless it supplies the learner at the outset with sufficient knowledge of the unit to show him effectively the relation of the unit of learning to his own nature, experience, and needs.

2. *Every procedure must present a crisis.* Such a crisis will seldom arise in a random, unorganized situation in which neither teacher nor learner sees a difficulty or the way out clearly. Instead, such a crisis arises when a sharp break occurs between habitual ability to cope with a situation and present inability so to meet the difficulty. During a well-planned crisis there is a challenge to a pupil's present powers that impels him so to react that a more

capable self emerges from the experience. Such a motivated process of self-realization is usually referred to as a process of learning by doing or as problem solving.

The crisis must, of course, be adapted to the conditions of each unit of learning. To be of greatest benefit the crisis element should, in most subjects, lead the learner: (1) to find and state his problem; (2) to study the situation in a search for hypotheses; (3) to test his hypotheses in the light of experience and present data; (4) to formulate and verify working conclusions; and (5) to apply his successful conclusions. In a procedure whose emphasis is upon enjoyment, as might be the case in literature, art, or music, the crisis should lead the pupil: (1) to grasp in a general way the type of material to be presented; (2) to assemble, with direction, relevant experiential data; (3) to see meaning in the material in question; (4) to develop working principles for the classification of the new variety of enjoyable material; and (5) to conduct excursions into additional related materials. In a procedure whose emphasis is upon the development of skill, the crisis should lead the pupil: (1) to face clearly a situation which requires a readjustment of his resources; (2) to set up activity favorable for such a readjustment; (3) to select successful reactions to the situation; (4) to automatize the new reaction or hierarchy of reactions; and (5) to employ the new skill in various situations as occasions demand.

Each of the three types of situations just sketched emphasizes three essentials of a learning process: understanding, habit or attitude formation, and generalization of experience. That is, the first principle of procedures—every procedure should at the outset orient the learner—is fundamental for each type of crisis situation. Likewise, habit or attitude formation is essential whether the solution of a problem or the development of skills is involved. Finally, generalization of experience, the central issue in

transfer of training is required in all types, particularly in the steps numbered 2 and 5.

3. *Adequate procedures exhibit evidences of sound scholarship.* No one who is ignorant of the general purposes of education and the relation of his own department of subject matter to those purposes can plan adequate educative procedures.

4. *Adequate procedures provide for orderly, thorough, and discriminating processes.* As described under 3 above, procedures require the collecting, classification, and interpretation of data. As such processes are identical with those of successful living, after as well as during schooldays, teachers should emphasize the importance of cultivating these qualities as ideals that can be used as generalized procedures in varied situations.

5. *Procedures must coördinate individualized educative experiences.* Adequate procedures provide for progress from relatively unorganized experience and notions to systematized generalizations, attitudes, and skills. This is less a course from the known to the unknown than a proceeding from one situation which is understood to other situations which are also understood by the time they are reached. The learner's progress is marked by a new integration of experience, upon a higher level, into a more and more involved complex in which the new situations or concepts are understood.

In the elementary stages of a subject as well as in its final applications by a superior pupil, no procedure or device is adequate unless it coördinates the experiences of pupils as individuals. This coördination includes varied forms of self-expression, mental and physical; linguistic—reading, writing, speaking, thinking; æsthetic—graphic, performance upon instruments; and so on. That is, procedures exist to enable pupils not only to live but also to live more fully in terms of desirable objectives. The varia-

tions among the capacities, interests, and needs of pupils necessitate a differentiation of assignments in every classroom. Even though classes were sectioned upon the basis of certain abilities, as they can be in some schools, there are still such gross differences among pupils that an attempt to coördinate their experiences by the same means, quantitatively or qualitatively, can result only in pretense. Creative learning—that in which the pupil knows what he is about—takes place only when procedures are individualized in terms of the individual experiences which they are designed to coördinate.

Mastery of subject matter also necessitates adequate coördinating of experiences. The successful pupil proceeds from the realm of fragmentary, everyday life experiences to that of connected, systematic experiences in terms of subject matter. Desirable coördination is facilitated by the skillful planning of relatively long units, rather than by the use of disconnected fragments whose connections pupils fail to see. This principle is, therefore, best exemplified when the procedure coördinates a fairly long unit of school experience and at the same time provides for differentiated assignments to meet individual differences among pupils.

Five principles of procedure planning have been presented in this section.[17] These principles provide for pupil orientation, crisis situations, scholarship, organized work, and coördinated, individualized experiences. So far nothing has been said of the relationship of procedures to the social situation in which they are used. Although sheer mastery of subject matter is largely an individual process, educators have insisted for generations that the best school

[17] M. N. Funk, in "A Comparative Study of the Results Obtained by the Method of Mastery Technique and the Method of Daily Recitation and Assignment," *School Review*, Vol. 36, May, 1928, pp. 338-345, indicates that the length of teaching units may be more important, however, for teachers than for pupils.

is a miniature society. This insistence has been based upon the recognition of five socio-educational principles: (1) that many of the most important issues of all life are social; (2) that a resourceful teacher can guide and socialize a class so as to develop group learning situations; (3) that one of the strongest driving forces in study comes from directed social experiences; (4) that individual resemblances are, in many respects, quite as important as individual differences; and (5) that failures charged to group instruction are chargeable not to the difficulty of group procedures but to inabilities of certain teachers. Consequently, one should examine carefully any procedure that professes to provide for individual effort without, at the same time, providing also for socialized effort. As a temporary measure, individuals who have been absent from school or who, for some other special reason, are temporarily out of their group may proceed alone. As a regular practice, however, individualized procedure within a socialized group has all the advantages of both purely individual and lock-step procedures but lacks the disadvantages of either.[18]

Examples of devices that comply with all the principles of procedure stated in this section are provided in the descriptive accounts of the work of experimental schools. The following extended account by Phillips of the indeterminate assignment as conducted in the Wisconsin High School, although devoted entirely to history, is here quoted because it is applicable to other subjects and because it shows how to provide both social and individual experiences within a given procedure.[19]

[18] *Cf.* Ross L. Finney, *A Sociological Philosophy of Education*, Ch. iii, on "The Social Nature of the Mental Life" (Macmillan Co., 1928).

[19] Burr W. Phillips, "The History Assignment: A Suggested Classroom Procedure," *Historical Outlook*, Vol. 17, November, 1926, pp. 322-327. The passage here quoted is from pp. 323-325. The paragraphs are not numbered in the original article. See also the discussions on pp. 260-265 and 490-492.

1. First it is necessary that we consider the history assignment. Our main thesis is that the usual daily assignment is too often merely an arbitrary and unnatural division of the material of history, and that it too often breaks into the integrity of our subject; that the practice of giving the same daily assignment to all the members of the usual high-school class is in direct opposition to what we are beginning to know about the psychology of individual differences; and that the whole procedure based on such a practice has tended to encourage what has been called "half-thinking" and "half-learning" of *lessons* rather than a real mastery of *history*. As a result, we too often have an artificial situation, where the teacher assigns lessons and "teaches" (more or less ineffectively) and the class learns lessons (also more or less ineffectively) because the integrity both of the subject matter and of the study process is violated.

2. As a corrective, we suggest what has been called the indeterminate assignment. Briefly, the idea is this. We assume that for purposes of presentation any given historical field may be organized on the basis of a few large units—perhaps from eight to a dozen for a year's course. For the understanding of a given unit certain essentials which we may call "working ideas" are absolutely necessary. They are usually the thread of the narrative, the main "plot" or "motif" of the story, and the essential facts of the story understood in their proper relations. No pupil could possibly have a mastery of the unit without a pretty clear understanding and mastery of these "working ideas." It is conceivable that there may be some pupils in the class who will never get any further than a mastery of these "minimum essentials." It is also quite patent that in any normal, wide-awake class, few pupils will be satisfied with the bare outlines of the story. Unless all pupil initiative has been effectively suppressed, the average pupil will want to follow up these "working ideas," pursuing the plot of the story into all its ramifications, finding out why things happened as they did, and investigating some of the great problems of the period or development which he is studying. The gifted pupil will find his spirit of inquiry limited only by the practical elements of time and material available, though he may find some "lasting intellectual interest" that will lead him to continue his study outside the classroom.

3. In almost any normal class there will be found these three groups of pupils which, for convenience, we may call the fair, good, and excellent groups. There will be the few who are able

to master little more than the bare thread of the story; the large number of those who are able to work ahead more rapidly and to cover the ground more thoroughly; and the somewhat smaller group of those who are able to work ahead almost indefinitely—at least until the time allotted for the study of the unit has expired or the available materials have been used up. And, of course, within each group, no two pupils will attack the problems of the unit in exactly the same way or from exactly the same point of view.

4. With these three groups in mind, the teacher will plan the work for the unit. Instead of making one general assignment for the whole class, or dividing the work up arbitrarily into daily assignments, she will set out three blocks of material, each block covering the whole unit of work. The "fair" block will contain what we have called the "working ideas" absolutely necessary for an understanding of the new unit. The "good" block will include, besides the "fair" block, additional material calculated to challenge the interest and ability of the second group of pupils. Similarly the "excellent" block will contain all of the "good" block plus sufficient additional material to keep the third group working up to capacity as they cover the work of the unit more fully and more intensively than those in the other two groups.

5. To show more concretely what is included in the three blocks or assignments, it is well to suggest that the "fair" assignment is usually based on the text alone, with outline and map work assigned as notebook work. The "good" assignment includes at least one additional parallel reading in a more detailed work. Reading from the source book may also be included in this assignment. For the "excellent" assignment, the reading of special accounts, biographies, and the preparation of special reports for the class are suggested. The possibilities of variation and enrichment of the "good" and "excellent" assignments will depend largely upon the resources available in the classroom or school library. Of course, the content of the notebook work will be richer and fuller for the good and excellent assignments than for the fair block. And these two assignments are designed to challenge a richer and fuller mastery than is the fair, or minimum, assignment.

6. Next it is important to see how such an organization of subject matter into the three blocks or assignments will affect the procedure of the classroom. Let us assume that the class is

taking up a new unit of work. Its first introduction to the new field will be in the nature of a preliminary survey or preview of the whole field presented by the teacher. This preview should not be a lecture, nor should it be too detailed. Rather, the teacher will sketch rapidly the main thread of the story, indicating the problems which must inevitably come up, the outstanding personages, or the ideas which dominate the period to be studied. She will tell her story in such a way as to appeal to the imagination and interest of the pupils; she will tell just enough to arouse curiosity; and she will take care not to tell too much. Probably no two surveys of this sort will be presented in exactly the same way. In a class in European History recently the instructor in his preview of the era of Metternich (1815-1848) called the attention of the class to the problems confronting the Congress of Vienna; to the four great personalities of the Congress—Metternich, Castlereagh, Talleyrand, and Alexander; to the position of France after 1814; to the continued demands of the Liberals throughout European countries; and to the reactionary policies which dominated the whole period. This was done in a talk lasting perhaps fifteen or twenty minutes and the rest of the sixty-minute period was spent in a very animated group discussion of the whole European situation in 1815. As a result there was no real break between the study of the Napoleonic Period and the new period, the interest of the whole group in the problems of the new era was aroused, and the work on the new unit was begun with proper motivation and orientation. The pupils were then given guidance sheets containing the fair, good, and excellent assignments, a guidance outline for the new unit, lists of important personages, dates, and catchwords, instructions for notebook and map work, and supplementary references; and the class was ready to begin its study of the new period.

7. After the preliminary survey of the new field by the instructor, the responsibility for carrying on falls at once upon the shoulders of the individuals in the class. For the next two or three class hours, each pupil is busy attacking the fair assignment. He is expected to read the whole story through rapidly at once in order to get the thread of the narrative and in order to sketch in the main outlines of the new picture. Then he masters the story in its details, section by section, with the help of the guidance outline. Class discussion does not begin until the pupils have had time to work well into the field and are able

to talk intelligently from the background which they have acquired.

8. After the second or third day, at least part of the hour is spent in a socialized discussion of the main problems and development of the period. The discussion is as informal as is consistent with orderly classroom procedure. The guidance outline is followed as a rule, but invariably new problems arise which are not included in the outline. In a typical discussion hour, the teacher will present two or three problems to the class for consideration, and in the discussion which follows at least as many more will be brought up by members of the class. The pupil who discusses the new problem is responsible for it in all its phases and is vigorously questioned by the class and by the teacher; or he may in turn develop his problem so as to present new aspects to the class for general discussion. Especially prepared oral reports are also presented at this time, the pupil being responsible for any discussion which his report may arouse. With the teacher as the directing member of the group, this procedure seems to secure a maximum of pupil activity with a minimum of the dominating sort of teacher activity. In a class selected at random, the teacher presented two or three main problems, and asked perhaps a dozen incidental questions, while almost twice as many questions were brought up and disposed of by the pupils themselves.

9. Since the guidance outline is followed, and since each day's discussion invariably points to the next phase of the work to be covered, no page or section assignments are made from day to day, although at times it becomes necessary to point out the more difficult phases of the work or to add some explanation to the outline. The greatest effort is made, however, to see that the pupils are constantly working ahead, so that, as their appreciation of the new story grows, it will unfold as one unified whole.

10. An effort is also made to emphasize the fact that study is one integrated process whether the class hour is spent entirely in discussion or in laboratory work, or whether it is divided between "recitation" and laboratory work. In an ideal procedure the urge must come from within the pupil, in both "study" and "recitation," even though the teacher is present to stimulate and to guide. "Study" and "recitation" become merely two aspects of the same process in which the pupil alternately *thinks through* the new problems he is encountering, and gives expression to the results of his thinking.

11. And so we do not hesitate to turn the history classroom into a laboratory. Books, magazines, and maps are constantly at hand, and when the class is not engaged in the more formal types of "recitation," the classroom becomes a workshop in which again the pupils work ahead, on their own initiative, under the guidance of the teacher. Skill in self-direction is the goal, and mastery is attained only as each pupil works up to capacity. As a rule, the first two or three days on a new unit of work, a part of almost every other class hour, and quite frequently the whole class hour, are spent in what some would call "supervised" study. The members of the class work ahead at different rates of speed, the teacher working with them. The progress which each pupil is making from day to day may be checked on the basis of his active participation in all class discussions, by the information outline which he develops in his notebook as he works into the subject, and by the usual tests and examinations. Incidentally, much of the individual testing and drill that usually take up so much of our "recitation" time, may be done during the laboratory hours.

12. As the pupils work ahead into the field at varying rates of speed, it is obvious that some will complete the "fair" assignment long before others. As soon as a pupil has completed the "fair" block of work to his own satisfaction and to that of the teacher, he works ahead into the "good" assignment; and similarly the pupil who completes the "good" assignment is free to work ahead into the "excellent" block. By the time the class has completed the discussion of the whole field—perhaps three or four weeks on the average unit of work—the normal group of pupils will include those who, working up to capacity, have been able to complete only the "fair" block; while others will have completed either of the other two blocks of work. And this will have been accomplished without an arbitrary segregation of retarded and advanced pupils, or a division into A, B, and C classes or groups. Each pupil will have had the opportunity to advance just as rapidly as he is able; and at the same time the weaker pupils will have had the advantage of working and rubbing elbows with their stronger classmates, while the latter will not have been retarded as is so often the case in the usual recitation procedure.

Provisions for procedure planning according to the five principles of this section are made by Phillips. First,

pupils are oriented before and during their work as shown in paragraphs 6, 7, and 8. Second, pupils are placed in crisis situations as shown in paragraphs 7 and 8. Third, professional scholarship is shown in the planning of the procedure by the entire excerpt. Fourth, organized work is provided for especially by paragraph 10, while the need for such work is presented in paragraph 1; other paragraphs as 6-9 also illustrate this principle. Fifth, coordinated individualized experiences are provided specifically in paragraphs 3-5 and 11 and 12, whereas other paragraphs as 7 and 8 also exemplify the fifth principle. Finally, such a procedure meets the needs of the heterogeneous pupils who constitute the classes of American secondary schools.[20]

Standards of achievement. Educational activities are catalogued in school announcements largely in terms of departments of knowledge. To say that a school has a six-year course would be entirely inadequate as á description of the school's offerings and standards. Yet one learns little more of the school when one reads that the school offers vocational and preprofessional curricula. To obtain adequate knowledge of a school, one must discover also its standards of achievement. Unfortunately, standards of achievement can be developed only upon the basis of a sound philosophy of education; and every school must have its standards. Still more unfortunately for many schools, standards can rise no higher than the teachers who administer them.

Criticisms of the standards of secondary schools are de-

[20] For additional discussions of procedures which meet the requirements here set up, see the following: H. L. Miller, *Creative Learning and Teaching;* W. S. Monroe, *Directing Learning in the High School;* H. C. Morrison, *The Practice of Teaching in the Secondary School,* and *Studies in Secondary Education;* and Douglas Waples, *Problems in Classroom Method.* See bibliography at the end of this chapter for names of publishers.

livered now just as they have been for over two thousand years. Statements are made with supporting evidence, just as by Isocrates, to show that the mother tongue is neglected and that sound training in the logic of serious thought is overlooked by teachers who have a greater flair for short cuts to education than for sound training. When one finds that pupils profess so little benefit from various departments as Crow announced in English literature, one should, perhaps, merely acknowledge the fault and resolve that during the next generation the schools will do better.[21] If, however, such a resolution is kept during the coming generation, the credit will belong in large part to supervisors who can lay facts before their teachers and then induce teachers to act upon the basis of the facts. In the past, both teachers and supervisors have possessed the facts, but they have not acted in accordance with them.[22] A point which seems obvious, but which is usually overlooked, is that the only curriculum that has any value for any pupil is that which he actually masters.[23] As mastery of a curriculum is in terms of self-realization, and, as self-realization is here interpreted in terms of valid general and departmental objectives, standards of achievement must bear a triple aspect: they must be attainable by pupils, they must be attainable through certain activities, and they must be attainable under the general direction of classroom teachers. In all subjects as well as literature "the first requisite is to know by whom its benefits are to be enjoyed and what those benefits are. This requisite necessitates knowledge of the objectives of the course, its real or alleged social worth, the interests and maturity of

[21] C. S. Crow, *Evaluation of English Literature in the High School*, Teachers College, Columbia University, Contributions to Education, No. 141, 1924.

[22] *Cf.* Uhl, *op. cit.*, pp. 395-398. For a review of Crow's monograph, *ibid.*, 339 *ff.*

[23] *Ibid.*, Part IV.

the persons pursuing it, and the possibility of coördinating pupils' equipment with their social needs. The second requisite is to know by whom and under what conditions the course is to be offered. This necessitates a knowledge of the teachers' equipment and the physical conditions which underlie the organization of courses. The third requisite is to know the nature of the content of the course. This necessitates a consideration of the availability and organization of appropriate materials in connection with the interests and maturity of the pupils using them."[24]

These basic principles for the formulation of standards can be further elaborated in terms of the three constituents: pupils, activities, and teachers. In addition to the principle already stated, that is, that standards of achievement cannot rise higher than the teachers who administer them, there are five principles of the formulation of standards that apply to pupils and activities. First, standards should be differentiated to meet the equipment, interests, and needs of pupils. The thorough application of this standard requires a complete pupil inventory—more complete than available devices for measurement can yield. The teacher must, therefore, to the best of his knowledge, adapt standards to each of his pupils. He will be required also to set up levels of achievement within each unit of work as described in the foregoing quotation from Phillips.

For pupils of the same ability, standards may be both qualitative and quantitative. The fact that children have approximately the same general intelligence may, for many departments, scarcely indicate that they have identical interests and needs. Two pupils, each of whom has an intelligence quotient of 140, may, for example, have very different interests and needs in mathematics, English, applied arts, and French; for one may be a prospective

[24] Uhl, *The Materials of Reading: Their Selection and Organization* (Silver, Burdett & Co., 1924), pp. 326-327.

electrical engineer and the other a prospective journalist. For the engineer, units in English poetry and French drama are not vocational; he may develop as much interest in these units as he needs to without studying them exhaustively. Indeed, a wise student might conceivably be pursuing units of so much greater importance in his other subjects that he would be neglectful of his own good judgment if he indulged himself in all the interesting literary challenges that his teacher had outlined for excellent students. The young journalist sees vocational merit in poetry and drama and hence, if wise, rises to all challenges in those units. Industrial arts might aid him greatly in judging processes, as lithographing or drawing, which are related to journalism, but he might need training rather as a critic than as an executant. He might find in mathematics an ideal procedure for use in solving problems and many technical terms which would aid him as a journalist, but he would be unwise to neglect literary studies for the sake of interesting optional challenges which the teacher of mathematics might have devised.[25]

Second, differentiation of standards of achievement for pupils of varied abilities should emphasize the nature of the child as well as the nature of the activities suggested by a department of subject matter. This principle runs directly counter to a statement that is often made about dull pupils. Such pupils, the statement runs, can be expected only to memorize some of the easier portions of a course. That this amazing statement should persist three centuries after Comenius wrote *The Great Didactic* is another indication of the need for supervisors. For supervisors everywhere are aware that the dull pupils, more than any others, languish when they are allowed to pass merely by memo-

[25] See the *North Central Association Quarterly*, March, 1927, and March, 1928, for detailed lists of challenges in literature, science, and physical education.

rizing books and lecture notes; only the most brilliant pupils can supply enough from their richer background to enable them to realize themselves through such a process—and such pupils seldom abandon their time to so stupefying a procedure. Adequate differentiation in standards and procedures provides a sufficient familiar or concrete background to bridge the gap between pupils' present status to the status that they are expected to occupy after instruction. As stated above, pupils proceed from a simple situation which is understood to a more complex one which is also understood; sound pedagogy does not justify accepting a slow pupil and leading him so far afield that he can no longer rationalize his way but must instead resort to the cheap verbalism of memory processes.

Third, standards of achievement should, in a course that is required of all pupils, be within the reach of all pupils who may properly be encouraged to enter the course. Classroom work need no longer be used as a selective agency. Pupils who cannot do the work required in first-year algebra can be detected with considerable accuracy by intelligence tests alone; the results of tests together with data on a good permanent record card will indicate a pupil's ability to pursue the course. Once he is admitted, he has only to do his best in order to pass, provided the teaching is good. Only a lack of pupil effort or inadequacy of teaching or the common combination of both can be blamed for high percentages of failure that are still being reported for prescribed courses in certain secondary schools.

Fourth, standards of achievement should form a sequence of coördinations between pupils' equipment, interests, and needs and the advancement of the course. This principle is a more general statement of the issue involved in the third principle. It is also a restatement in terms of standards of the fifth principle of procedure planning

which requires that procedures be coördinate individualized educative experiences.

Fifth, standards should conform with the types of realization set up for each department. Modern formulations of these types emphasize pupil reactions in contrast with earlier emphasis upon subject matter. One should understand, however, that emphasis upon pupil realization is in the interest of higher learning and teaching standards and that this emphasis need in no wise encourage a lowering of standards. If, then, mathematicians insist, as they do, that one of the greatest services that their department can render in secondary schools is to train pupils to appreciate the idea of relationship between variables, standards should be so formulated that this important form of realization will be achieved. Or, if teachers of literature, social studies, and science insist, as they do, that an important result of their departments is an interest that impels pupils to read extensively, standards should be set up that will insure the attainment of this purpose.

The measurement of accomplishment. The measurement of accomplishment is conducted formally and informally, objectively and subjectively, and by verbal and nonverbal tests of performance. Measurement grows out of the need to discover the status of pupils before, during, and after work upon a given unit. It is in terms of the specific objectives of education and the responses that actual pupil self-realization is revealed. All adequate procedures are continuous processes of varied measurements.

Many of the writers of the subsequent chapters in this volume show the great advance which has recently been made in measurement by means of tests that are relatively objective, reliable, and valid. They indicate with equal clearness the futility of tests of information as sole measures of pupils' accomplishments. Pieper, in his chapter on science, shows, for example, that the purposes of science

teaching in schools demand that many facts be mastered, but he shows also that information tests may fail to indicate either ability or desire to use scientific data.

In many subjects one can employ new-type examinations which require not only factual accomplishment but also ability to organize facts logically. Such a test, though difficult to prepare, has obvious advantages over essay tests which are difficult to score. As devices for measuring quickly a pupil's acquaintance with many details, new-type examinations are so much more comprehensive than essay tests that many educators regard the time spent in preparing new-type quizzes as well spent. The relative value of new-type and old-type examinations is, according to Brinkley, about equal, whether the tests are employed to measure general achievement, ability to think in terms of the content of a course, or information.[26] This statement is qualified, however, by the provision that the testing periods be of equal length and that the teachers shall have had expert training for the preparation of tests.

Finally, tests have three purposes: judicial, instructional, and diagnostic. The judicial purpose, which teachers adopt when they attempt to discover how successful they have been, has relatively important and also relatively unimportant values. Of great importance is knowledge of the status of pupils, provided such knowledge is used as one of the guides in the planning of subsequent work. This purpose, though important, is generally of relatively small value when knowledge of pupils' status is used only for purposes of marking and classifying pupils and measuring teachers' work.

Measurement, when emphasis is upon the immediate

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[26] S. G. Brinkley, *Values of New-Type Examinations in the High School*, Teachers College, Columbia University, Contributions to Education, No. 161, 1924, p. 58. Brinkley experimented only with examinations in history.

instructional value of the devices used, may spur pupils to work, induce reviews, or provide for the application of what has been studied. When so employed, measurement may include the accounting of the value of either extensive reading or of a ten-minute quiz. For extensive reading can be employed not only as an educative activity, but also as a measure of pupils' interest in their academic work.[27] As measures of progress, extensive reading, supplementary laboratory or shop work, and other forms of voluntary or semi-voluntary activities indicate achievement, spur pupils to work, and provide application of attitudes or powers that have been developed. Although the results of such tests of accomplishment have not yet been stated in objective, valid, and reliable terms, the fault is not necessarily so much with the procedure as with deficiencies in testing programs. Emphasis is here placed upon such devices for measurement, because their importance is frequently overshadowed by the definite and apparently trustworthy results of other forms of tests. An adequate testing program includes both formal and informal devices.

The diagnostic values of tests consist of their power: (1) to discover pupils' needs and show points of departure, as in work upon a new unit of a course; (2) to guide in remedial work, if needed; and (3) to show justification for exemption from further work by capable pupils. As in the case of other values of measurement, these values can sometimes be obtained by informal discussions which reveal to a discerning teacher the next steps in her pupils' training; while, at other times, formal, new-type tests are more effective for the same purpose. A great advantage of new-type tests for this purpose is that the test is a definite and fairly certain device, whereas an informal test may be indefinite and very uncertain in results. Here,

[27] See *Studies in Secondary Education* by W. C. Reavis and others (University of Chicago, 1925), pp. 70-90.

again, Brinkley's appraisement of tests may be applicable: the value of tests depends more upon the person who devises and administers them than upon the form of the tests.[28]

A supervisory program for the general supervisor. An educational program can be formulated only upon all the basic considerations that underlie sound policies. Although a supervisor may at times devote attention chiefly to the materials of instruction, he cannot even then overlook other fundamental matters that control the effectiveness of subject matter. No one basic consideration can be adequately treated in isolation from the other basic considerations. Consequently, though the supervisor must now deal mainly with one issue and then with another, he must, before he decides an issue, envisage all basic issues. The general supervisor's program includes, therefore, the guidance of teachers: (1) in the formulation of general and departmental objectives; (2) in the planning of suitable educative activities; (3) in the organizing of effective units of subject matter; (4) in the planning of dependable teaching procedures; (5) in the formulation of valid standards of achievement; and (6) in the devising of measures of accomplishment.

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[28] *Op. cit.*, p. 58.

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CHAPTER II

THE SUPERVISION OF NATURAL SCIENCE

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The need of supervision in the teaching of natural science. Existing conditions in the teaching of natural science present to administrators, research workers, and teachers two significant and closely related problems. The first is: how can the valid progressive suggestions offered by educational philosophy, by investigations into the nature of the learning process, and by curricular studies be incorporated into classroom practice in natural science teaching? The second, a corollary of the first, is: how can teachers and supervisors of natural science contribute most effectively to the development of a science of the teaching of their subjects whereby they may hope continuously to improve the curricular content and the techniques of teaching and learning in this department of the secondary school?

From the outset, one should recognize the fact that these problems require continuous and comprehensive study. Both the science of education and natural science are constantly changing, expanding, and becoming clarified. The present chasm between school practice in natural science teaching and the results of research in the rapidly growing educational and natural sciences must unfortunately widen unless our two major problems are seriously attacked and solved, at least in part, by a large corps of competent students of the science of science teaching.

A cursory examination of existing conditions in natural science teaching reveals the fact that natural science has not fulfilled its expectations. In the junior and senior high schools, with which we are immediately concerned, the success of natural science as one of the major departments of the curriculum is frequently questioned. The allotment of time given natural science in the program of studies is a fair index of the strength of its claim for rank among the various departments. This allotment of time is too low, especially in the junior high school. The probable causes are various. The objectives are not clear; the principles of selection and organization of materials and activities for the different courses and grades are not well established; the sequence of courses is not agreed upon and not confirmed by objective evidence; the teaching techniques employed still emphasize the storage conception of education; true learning activities are not adequately provided for pupils. The attitude of some psychologists and investigators on conditions of science teaching may be shown by a few selected quotations.

As was pointed out in the introductory chapter, twenty years ago there was the most unqualified optimism among those who were active in introducing science into school programs. They were emphatic in the assertion, which cannot be denied, that science lies at the foundation of modern industrial development. They called attention to the popular interest in scientific discovery and to the vast improvement and enlargement of the methods of research. They assumed that it would be easy to introduce students to science. Experience has served to temper this optimism.[1]

The various courses in the different sciences show no coherence, and the outcome in the way of practical applications made by students is so meager that the value of science teaching is, on every hand, seriously called into question. Certainly if any situation ever demanded careful examination, it is this failure

[1] C. H. Judd, *The Psychology of High School Subjects* (Ginn & Co., 1915), p. 303.

of science to establish itself in an age when science is popularly thought of as the most productive type of intellectual activity.[2]

Although natural science has come to occupy an important place in the curriculum, in recent years it has experienced difficulty in maintaining the position which it has attained. As organized and taught, this subject lacks the power to stimulate the minds of boys and girls as its findings stimulate the minds of men and women. Only 10 per cent of the total recitation time in the high schools of the fifteen cities is devoted to natural science. It thus receives less emphasis than any one of the other four great academic divisions and less than that accorded the commercial branches.[3]

There is one rather severe criticism which may be applied to the entire science program in the high school with the exception of the course in general science. Most of the courses seem to lack human interest. The materials are organized about the interests of scientists rather than about the interests of high-school boys and girls or of ordinary persons.[4]

Science presents the greatest variation in practice of any major subject of the curriculum. The statement applies to all of the five grades covered by this investigation.[5]

They (school systems) will welcome every agency which will promote the rapid evolution of practicable (natural science) courses of study and materials of instruction.[6]

The above quotations are fairly representative of a great number of statements found in the educational literature, but the condition of natural science in the senior high-school curriculum is not so alarming as may appear. The statement to the effect that only 10 per cent of the total recitation time in the high schools of the fifteen cities is devoted to natural science is not so discouraging when we note the percentages of time allotted to the six

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[2] *Ibid.*, pp. 303-304.

[3] G. S. Counts, *The Senior High School Curriculum* (University of Chicago Press, 1926), pp. 66-67.

[4] *Ibid.*, p. 75.

[5] J. M. Glass, *Curriculum Practices in the Junior High School and Grades V and VI* (University of Chicago Press, 1924), p. 50.

[6] *Ibid.*, p. 52.

major divisions: English, 18.8; social sciences, 12.4; commercial subjects, 11.4; foreign languages, 11.1; mathematics, 11.0; and natural science, 10.2. Further, when we note in another statement of the writer that natural science shares fourth place with mathematics, and is exceeded only by English, physical education, and social science, in the time devoted to the constants in the fifteen cities, we may conclude that this relatively new "subject" has been quite favorably received. The reader who is interested in further data and in the interpretations of the present conditions in natural science in the senior high school will wish to examine articles by Downing,[7] Caldwell,[8] Bailey, Foster and Erwine,[9] and by other authors quoted by these writers.

In the junior high school natural science has received far less recognition than other major divisions of the curriculum. Glass[10] shows that among the fourteen centers investigated, the number which include natural science as a constant is decidedly less than the number of cities including English, health, mathematics, social studies, music, art, industrial arts, and home economics, especially in Grades VII and VIII. Also, he shows that, in terms of the average number of minutes a week allotted to each constant by the fourteen school systems, natural science ranks eighth in Grade VII, and fourth in Grades VIII and IX. Although present practices are in general similar to those found by Glass, it is nevertheless true that administrators take a favorable attitude toward natural science and would allot

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[7] E. R. Downing, *Teaching Science in the Schools* (1925), Ch. iv, pp. 24-45.

[8] O. W. Caldwell, "Preparation of the General Science Teacher," *School Science and Mathematics*, Vol. 23, 1923, pp. 307-313.

[9] E. W. Bailey, L. F. Foste , and F. G. Erwine, "Science in California Schools," *University High School Journal*, University of California, Vol. 4, 1924, pp. 46-47.

[10] Glass, *op. cit.*, pp. 10-11.

more time to it were there available satisfactory courses of study and well-trained teachers. This attitude is well expressed in the three quotations which follow.

> There should be no need, in this day of man's rapidly expanding mastery over the forces of nature through achievements in science, to contend at length for the desirability of making generous recognitions of materials in this field in the curricula of junior high schools.[11]
>
> . . . the evidence is clear that the junior high school now gives promise of adding science to the constants of the programs of study in at least Grades 7, 8 and 9.[12]
>
> The writer discovered in practically all of the centers favorable judgment with regard to the introduction of science, that is, natural science, into the curriculum of the seventh and eighth years, and in several cities not at present giving this course, a decision to include it in the curriculum when satisfactory courses of study are prepared, suitable textbooks selected, and trained teachers chosen.[13]

What, then, shall be done in the light of existing conditions? Why is supervision needed to improve the courses of study and the techniques of teaching? Let us look at conditions from a different point of view and thus arrive at the practical needs of supervision in this field.

Educational philosophers are presenting new conceptions of life and of the place of the school as a social institution. Psychologists are clarifying our fundamental ideas concerning the nature of the learning process. Curriculum-makers are assisting in formulating the principles and details of selection and organization of the materials and activities for instruction. Methodologists are pointing the way to more effective teaching and learning techniques. Committee reports are proposing helpful suggestions in all

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[11] L. V. Koos, *The Junior High School* (Harcourt, Brace & Co., 1920), p. 131.

[12] Glass, *op. cit.*, p. 33.

[13] *Ibid.*, p. 50.

phases of natural science teaching. Individual teachers of natural science are contributing valuable studies in natural science teaching. Scientists are giving us new interpretations of the materials, forces, phenomena, and applications of science and are pointing out new means of meeting those problems of individual and social life which may be solved by the aid of science. In the midst of these conditions it is little wonder that the teacher of natural science is frequently "lost in the woods" and finds consolation in teaching the textbook and the laboratory manual by traditional methods.

Clearly, the teacher of natural science must keep informed regarding the progressive steps in all phases of the science of education and also regarding the progress of his "subject-field." But under our present teacher-training practices few teachers are able to begin their teaching experience with adequate training in the professional field or with a thorough knowledge of their "subject-field." (See data in studies and articles by Hutson,[14] Finley,[15] Caldwell,[16] Powers,[17] and Frank.[18]) At best, the proper professional training must include actual classroom experience or apprenticeship. A term or two of practice teaching in natural science can do little more than point the way. Teachers must secure the major part of their technical training in actual service. Only through such apprenticeship can they grasp the significance of and formulate sound

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[14] P. W. Hutson, "High School Teachers: A Study of Their Training in Relation to the Subjects They are Teaching," *Educational Administration and Supervision*, Vol. 9, 1923, pp. 423-428.

[15] C. W. Finley, *Biology in Secondary Schools and the Training of Biology Teachers* (Bureau of Publications, Teachers College, Columbia University, 1926).

[16] Caldwell, *op. cit.*

[17] S. R. Powers, "The Training of Science Teachers in Subject Matter, *General Science Quarterly*, Vol. 8, 1924, pp. 481-496.

[18] J. O. Frank, "The Preparation of High School Teachers, *School Review*, Vol. 31, 1923, pp. 16-27.

views concerning the objectives, principles of selection and organization of activities, principles of technique, and valid means of measuring the results of their courses. Nor is efficiency in a profession best gained through unsupervised trial-and-error methods. It is, therefore, imperative that the new recruits receive proper supervision. Moreover, teachers who would grow professionally desire supervision, provided it is of the species which promotes rather than hinders or stifles growth.

There is another important aspect of the need of supervision for natural science teachers. This refers to all teachers, inexperienced and experienced, and is suggested by the preceding paragraphs which relate to the changing educational and natural sciences. The different emphases upon the fundamental purposes in different school systems and the particular plan of coördination of the various functions of all concerned with the education in any given school system require that teachers in the special fields orient their work to conform with the policies and purposes of the system. Teachers are, without supervision, too far removed from the progressive plans of headquarters to wage an effective campaign against outworn traditional objectives, obsolete principles of selection and organization of subject matter, and inadequate techniques of teaching.

If supervision will improve the practice of teaching natural science and will develop a science of natural science teaching, this "subject" will find its proper place and function in the junior and senior high schools. The responsibilities for improvement lie primarily with natural science supervisors and teachers. But they can not be expected to shoulder the responsibility without the assistance of teacher-training institutions and of school administrators. The former must provide adequate training in keeping with modern principles of education. The

latter must encourage better teaching by providing well-trained teachers, by encouraging experimentation, by providing the necessary working conditions, and, in general, by sharing the responsibility of the failure or success of the supervision and instruction.

Fundamental theses for supervision of natural science. Before proceeding to a more detailed discussion of the various phases of supervision let us state certain fundamental theses which we consider guiding principles for the effective supervision of the teaching of natural science in junior and senior high schools.

1. *Supervision should be based upon a clear conception of the place of natural science in the curricula of junior and senior high schools.* This thesis requires that the supervisor consider his field of activity in its relation to the work of other departments and in its contributory relations to the major purposes of the school. Through clear vision of these relationships he may safely proceed in his duties and responsibilities. The "subject-centered" vision of many teachers and supervisors makes it imperative to emphasize the need of breadth of vision which extends beyond the confines of a subject or a department. Natural science is only one of several major fields of human endeavor and only one of several essential subjects in a liberal secondary-school curriculum.

2. *Supervision should look to the desirable improvement of the lives of the pupils who are studying natural science.* This desirable improvement cannot be measured in terms of information gained or knowledge stored. Modern educational principles demand that information and subject matter be made the means or media for the attainment of new modes of behavior and new direction of interests. Conduct, not erudition, is the goal. And, so far as natural science is concerned, supervision must aim at providing in pupils the understanding of, the appreciation of, new atti-

tudes toward, greater enjoyment of, and better adjustment to their environment. The school exists and supervisors and teachers are employed to insure the best possible human product. It is, therefore, essential that supervisors constantly bear in mind the ultimate goal of instruction.

3. *Supervision is a series of activities designed to realize the aim set forth under* (2). Whether supervisors are assisting in the selection of teachers, assigning teachers to classes, observing and criticizing classroom work, preparing tests to measure instructional outcomes, holding conferences or meetings, advising on matters of equipment, selecting textbooks, providing professional reading material for teachers, or performing any of the other detailed activities attached to their positions, all of their activities must be directed toward the one ultimate goal of learning.

4. *Supervision is a coöperative enterprise.* There needs to be coöperation not only between the supervisor and the teachers whom he supervises, but also between the supervisor and administrative officers. We here emphasize cooperation with the supervised as a fundamental thesis. This thesis assumes that two or more minds are better than one when the one is one of the two or more. And yet supervisory officers often fail to proceed on this obviously sound basis, showing little faith in the abilities of teachers. The humble, sincere, helpful attitude of the supervisor is often lacking. In a field as unexplored as natural science teaching, danger lies ahead for the supervisor who attempts to make progress by the directorial plan employed by some supervisors. Especially is this true in the senior high school where the supervisor, at best, is likely to be not thoroughly trained in the subject matter of one or more major sciences.

5. *Proper supervision in natural science requires a genuine research attitude and ability.* Relatively so little has been scientifically verified regarding objectives, con-

tent, and teaching techniques in natural science that supervision offers abundant opportunities for suggesting and carrying on research. Opinions about natural science teaching are rarely substantiated with adequate objective data. Let us mention only a few problems which supervision as a coöperative enterprise may assist in solving.

a What desirable interests do our present natural science courses arouse in students?

b In what specific ways does the study of natural science provide for more intelligent performance of life's activities?

c Are pupils of the junior high-school age more interested in utilitarian or "phenomenal" problems? in the remote or immediate aspects of the environment?

d Is a large number of short units as effective in providing valid outcomes as a smaller number of more comprehensive units?

e What manipulative skills learned in the laboratory work are of use in daily life outside the classroom?

f What method of attack furnishes the best motivation to a new topic, problem, or unit in science, a short talk by the teacher? a demonstration? reading from the text or from a reference book or magazine? a general discussion?

g What scientific attitudes does the teaching of natural science develop?

h What natural science knowledge do pupils use outside of class?

i How can tests be used to diagnose pupils' understandings of, attitudes toward, and appreciations of an aspect of the environment before and after they have studied any unit of the course?

j What are the specific differences between slow, medium, and superior pupils in their "mastery" of a given unit or block of instruction? [19]

6. *The plan or program of supervision should be definite, continuous, and comprehensive.* This thesis requires that the supervisor formulate a plan of procedure that provides for all of the major organizational and instructional phases

[19] H. H. Ryan and Philipine Crecelius, *Ability Grouping in the Junior High School* (Harcourt, Brace & Co., 19[illegible]). Especially Ch. xii, pp. 165-181.

of the departmental program of studies and which looks ahead over a period of years. General suggestions for such planning may be found in a number of books and articles, and especially in the books by Barr and Burton [20] and by Cubberley.[21] These volumes also give abundant references to other sources. Such a plan should, as far as possible, be prepared at departmental meetings in coöperation with the teachers and an outline of the plan should be placed in their hands as a memorandum and a guide.

Space does not permit a complete statement of such a plan for natural science. It will, however, illustrate and clarify our thesis to include here one small section of a memorandum which the writer sent to teachers in his department shortly after the beginning of the school year.

Memo to Teachers of Natural Science

Each year should find us taking further steps in the careful organization of our courses and in modifying and improving our technique of instruction. Last year at our first meeting we outlined the steps for the year. Again, at the beginning of this year we outlined the next practical steps toward which we will work.

For the purpose of definiteness and reference I am listing below what we agreed upon as the next steps, including items which were a part of our program last year. The latter are indicated by an asterisk (*).

* 1. Encourage extensive voluntary reading and have students turn in cards (buff-colored) with notes thereon, according to the mimeographed directions supplied to your students. *Include in your semester report* this year class lists showing the number of pages read by each student for each unit and the total pages read by each class.
* 2. Prepare for each course (to be submitted as a part of your report) the following, in the order given:

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[20] A. S. Barr and W. H. Burton, *The Supervision of Instruction* (D. Appleton & Co., 1926), Ch. iv, pp. 37-111.

[21] E. P. Cubberley, *The Principal and His School* (Houghton Mifflin Co., 1923), Ch. xxii, pp. 431-455.

* (*a*). A one-page statement of the titles of the units of the course.
* (*b*). A one-page outline for each unit giving:
  * (1) a brief outline of your preview
  * (2) a list of the major problems of the unit with two or three major sub-points under each problem, stating the sub-points in the form of declarative sentences which represent the major ideas to be studied and understood by your pupils

(*c*). Your work plan for the assimilation, testing, and supplementary work on *Each Unit,* giving for the entire unit or for each problem of the unit:
* (1) any general directions of procedure furnished to students for use in the assimilation period
* (2) the required readings for the entire unit or for each problem of the assimilative period
* (3) the directions for experimental work, or definite page references to any experiments in laboratory manuals
(4) the tests or exercises employed during the assimilative period
* (5) a new type "best-answer" test for the unit
(6) a list of references for extensive reading and for use in supplementary reading and experimental projects, including library books, governmental pamphlets, laboratory manuals, magazines, bulletins, and pamphlets from various sources
(7) a list of topics and experimental projects with page references to source material in the library. (See plan in Pieper and Beauchamp, *Everyday Problems in Science,* pages 517-573)

A few comments will help to clarify the above outline.

(1) Continue the plan of recording and filing extensive reading reports as worked out last year, *and see that it goes on throughout the present year.*

(2) The items 2*a* and 2*b* were completed last year. In your report this year submit your revisions of these, and send me your revisions during the next two weeks so that I may use them for my conferences with the principal and superintendent.
(3) The items *c*-1, *c*-2, *c*-3, *c*-4, *c*-5, and *c*-6 were partly completed last year. These should be completed this year as we proceed through each unit.
(4) Items *c*-7 should be worked out as rapidly as possible. Will you send me at the completion of each unit the material called for under c and I shall have it put in shape for the semester report. In this way we shall not have an accumulation and jam at report time. Any material which you may wish to have mimeographed can be taken care of within a few days.

7. *The value of supervision is to be judged by its results.* The supervisor of natural science must institute a plan for measuring the results of the supervision. Only by carrying out such measurement over a period of years will it be possible to ascertain the effects of the supervision and to improve it. Such measurement should be broader far than mere results on tests. Other important items to be included are mentioned on page 70ff.

The formulation of valid objectives for the study of natural science. Objectives are of first importance in the proper supervision of instruction in any subject. Unless the ultimate and immediate goals are clearly defined it is not possible constructively to supervise either the selection and organization of the activities and materials for effective learning, the teaching technique, or the measurement of the results of the learning activities. At the outset, therefore, the supervisor should look to (1) the formulation of valid objectives, and (2) the thorough comprehension of the objectives by the teaching staff. The major objectives should be agreed upon early in the year. The specific objectives for each of the units of instruction are

best formulated as the courses proceed from unit to unit.

The statement of the major objectives presupposes a sound philosophy of education. There are no strictly scientific methods of determining the ultimate objectives of education. The consensus of leaders in the field of educational philosophy furnishes a safe guide. It will not be out of place, and in no sense neglectful of the views of other frontier thinkers in the field of educational philosophy, to refer the supervisor and the teachers of natural science to the writings of Bobbitt, Bode, Charters, Dewey, and Kilpatrick, and to the *Twenty-Sixth Yearbook* of the National Society for the Study of Education. The last-named publication contains a valuable recent composite point of view of a number of leaders in education and offers especially helpful statements of objectives and of the next practical steps in curriculum-making.[22]

It is urgently necessary that teachers of natural science come to view their courses in terms of developing in boys and girls desirable modes of behavior rather than in terms of imparting information which may or may not lead to improved living. The child is born with certain innate mental and physical capacities. It is the function of education, in and out of school, to modify these innate human capacities or qualities as well as the other qualities which appear later in life. This modification or self-realization looks to the totality of worthy modes of behavior in individual and social life. This desirable growth (1) improves and develops desirable qualities, (2) prevents the acquisition of undesirable qualities, and (3) inhibits and eliminates undesirable qualities. Thus we attempt to provide in the school, as one of the educative agencies, the best selection of activities, and the best guidance in the performance of those activities, as dictated by the sum of our racial experiences.

[22] See also the discussion of objectives in Ch. i.

There is apparently a tendency in some schools to accept the major objectives of the secondary-school period, such as health, citizenship, worthy use of leisure, and vocations as units of instruction or bases of organization. The objectives are not units of instruction; they are the standards of behavior, the ultimate goals. It should appear evident that units of instruction in natural science are to be determined upon the basis of the analysis and determination of the significant aspects of man's relations to his physical and biological environment, or upon the basis of the determination of the major conceptions of the special science and their human significance, and that, when this is done, the specific objectives or abilities to be developed through each unit will be set down under the unit in accordance with the major objectives.

It has been the custom of most writers to state the objectives of natural science teaching in very general terms. Such statements as those of the Committee on Reorganization of Science in Secondary Schools,[23] Twiss,[24] Dewey,[25] Coulter,[26] Downing,[27] the committees on curriculum of the St. Louis Schools,[28] and the curriculum committees of different states and cities may be analyzed, combined, and used as a starting point and guide. Somewhat more detailed objectives for natural science in general will be

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[23] O. W. Caldwell and Committee, *Reorganization of Science in Secondary Schools*, United States Bureau of Education (Bulletin No. 26, 1920), pp. 12-13, 36-37, and 50-52.

[24] G. R. Twiss, *A Textbook in the Principles of Science Teaching* (Macmillan Co., 1917), Chs. vi, vii, pp. 82-118.

[25] John Dewey, "Science as Subject Matter and as Method," *Science*, Vol. 31, 1910, pp. 121-127.

[26] J. M. Coulter, "The Mission of Science in Education," *School Review*, Vol. 23, 1915, pp. 1-9.

[27] Downing, *op. cit.*, Ch. v, pp. 64-84.

[28] Curriculum Bulletins Nos. 14, "Intermediate Science"; 30, "Biology"; 31, "Physics"; 32, "Chemistry"; and 33, "Health" (1926).

found in the St. Louis curriculum committee reports, in *How To Make a Curriculum* by Bobbitt,[29] and in articles by Nurnberger [30] and Curtis.[31] Still further guidance will be obtained by reference to the excellent historical discussions on the place of natural science in secondary education by Inglis [32] and Downing.[33] Abundant statements of the objectives for specific grades and special sciences are available in the curriculum bulletins of various cities and states, in the textbooks on the teaching of the special sciences, and in numerous articles.

Natural science courses are included in the secondary curriculum because they can contribute to the pupils' attainment of desirable modes of behavior. It is primarily the purpose of natural science, as a means of education to develop in the individual intelligent and sensible modes of adjustment to the physical and biological world, that is, the world of Nature. Our major objectives, therefore, should represent an analysis and statement of the significant modes of adjustment. Thus, we shall include among the major objectives:

1. The enjoyment of the materials, forces, phenomena, and applications which constitute our environment.
2. The appreciation of the significance of natural phenomena.
3. The maintenance of physical health and energy through proper relations with nature's forces, materials, and phenomena.
4. The efficient use and control of nature's forces and materials.

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[29] Franklin Bobbitt, *How To Make a Curriculum* (Houghton Mifflin Co., 1924), Ch. viii, pp. 129-145. (See also Chs. ii-iii.)

[30] Paul Nurnberger, "Objectives of Natural Science," *School Science and Mathematics*, Vol. 25, 1925, pp. 927-936; Vol. 26, 1926, pp. 33-43.

[31] F. D. Curtis, "A Determination of the Scientific Attitudes," *Journal of Chemical Education*, Vol. 3, 1926, pp. 920-927.

[32] Alexander Inglis, *Principles of Secondary Education* (Houghton Mifflin Co., 1918), Ch. xv, pp. 506-528.

[33] Downing, *op. cit.*, Ch. i, pp. 1-23.

5. The intellectual interest in all of the major individual and social life problems which relate to the adjustment to the environment.

6. The scientific attitudes toward and study of the environmental relationships,

and so on until all of the important desirable modes of adjustment are listed.[34]

The more specific objectives for each course may also be stated in terms of the modes of adjustment which are generally included in a course of the particular type or level. Thus, the general science course of the junior high school would have as its objectives the desirable modes of adjustment to the entire physical and biological environment, while a course in chemistry in the senior high school would require a less extensive range of objectives stated in terms of the narrower range of modes of adjustment. It is necessary also that we bear in mind the purposes of the schools of the different levels, the physical and mental maturity of the students, and their capacities and needs. Then we should attempt to define for each level the desired degree of attainment of the various modes of adjustment.

In stating the specific objectives for each unit of a course, it makes for simplicity and clarity to state for each unit not the general modes of adjustment to be attained, but rather the abilities which are to be developed and which determine the modes of adjustment. These abilities are, of course, quite complex. The desirable abilities fall into several classes, such as physical dexterity, sense discriminations, intellectualized emotional reactions, mental attitudes, skills, habits, and ideals. For each unit, then, the supervision should lead to the preparation of a specific list of abilities to be developed. That is, there should be a statement, as exact as possible, of the specific physical skills,

[34] See Twiss, *op. cit.*, Ch. i, pp. 1-17.

sense discriminations, emotional standards, mental attitudes, skills and habits, and ideals to be developed. Only by such analysis of our units of instruction can we provide the basis for effective supervision of the teaching process and develop a science of teaching natural science. Stated in slightly different terms, the abilities are our means of adjustment. As Huxley pointed out in his lecture, "A Liberal Education: And Where to Find It,"[35] life is a game with the laws of Nature. To play the game, that is, to have command of the desirable modes of adjustment, the individual must be able to understand, enjoy, appreciate, be interested in, study scientifically, and use effectively the materials, forces, and phenomena of Nature, as well as man's applications of these materials and forces.

The selection and organization of pupil activities for the study of natural science. When, after careful study, the major objectives for each course are determined, the supervisor and his teachers must next select and organize pupil activities which are the media of attainment of those objectives.

1. *Major units of instruction.* The major units of instruction should be selected at the beginning of the school year. The supervisor may well give certain written suggestions regarding the nature of the units to be selected and then request each teacher to submit, during the first few weeks of the school year, a brief list of the units to be included in his course. These lists will provide the basis for discussion at conferences and lead to the formulation of a valid list of units for each course. Certain suggestions regarding the nature of the units are given in the following paragraphs.

In the junior high school the scope of the entire set of units will be as wide as the significant human relationships

[35] T. H. Huxley, *Lay Sermons, Addresses and Reviews* (D. Appleton & Co., 1890).

with the physical and biological environment. Each unit will consider a major aspect of this relationship. A relatively small number of comprehensive units is desirable; from ten to twenty units for each grade or course is a defensible estimate. This plan has the advantage of providing an overview of the entire field of natural science as far as pupils at this level are capable of understanding and adjusting themselves to the environment. If this plan is followed some units will aim primarily at understanding, enjoying, and appreciating certain major aspects of the environment, while others will aim not only at these modes of adjustment but also at the performance of practical activities. The emphasis at the junior high-school level will probably best be placed on the former type of units.

In the senior high school, the units will be of a different type. At this level the units should represent phases of the special science field rather than aspects of the entire environment. Here the study is to be more intensive and specialized. The phases of special science are the "principles,"[36] or generalized ideas of that science. It is essential that pupils at this level come to see physics, chemistry, and biology, the commonly recommended subjects for the senior high school, as systems of knowledge and scientific method. This they can do most effectively if the units of instruction are few in number and have as their cores the major elementary generalizations of the science. With such organization pupils will be able to attain a more mature intellectual grasp of their relations to the environment and to develop broader and more scientific modes of adjustment to this environment.

Let us state possible titles of a few units for each of several courses, as illustrative of the type of unit which is recommended.

[36] This term is not here used in the strict scientific sense but as synonymous with a generalized statement of related facts and ideas.

JUNIOR HIGH SCHOOL

1. Keeping physically fit
2. Heating and ventilating our buildings
3. Why the weather changes
4. The relation of the earth to the universe
5. How plants and animals live together

SENIOR HIGH SCHOOL

Physics

1. The molecular nature of matter
2. Heat as a form of energy
3. The nature and transmission of sound
4. Static electricity
5. Color phenomena

Chemistry

1. The nature of chemical change
2. The elemental nature of matter
3. Chemical equivalency
4. Acids, bases and salts—neutralization
5. The cycle of carbon in nature

Biology

1. The cell-nature of life
2. Metabolism
3. Organic responses of living things
4. The nature of heredity
5. Theories of evolution

Further suggestions for the general plan of organization of natural science courses will be found in abundance in the literature. We recommend particularly the statements by Morrison,[37] Frank,[38] The Committee on Reorganization

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[37] H. C. Morrison, *The Practice of Teaching in the Secondary School* (University of Chicago Press, 1925), Ch. xi, pp. 171-186.

[38] Frank, *op. cit.*, Ch. vi, pp. 46-63.

of Secondary Science,[39] Barber,[40] Eikenberry,[41] Bailey, Turner, and Laton,[42] Twiss,[43] and Pieper and Beauchamp.[44] These will also provide references to other sources.

The determination of the major aspects of the environment and of the special science affords excellent opportunities for research. In this field we may employ scientific method, and this is being done in some quarters. Supervisors and teachers may add to the already existing studies on the place of science in human adjustment as well as apply what these studies have revealed. Some of the more significant studies and reports which directly or indirectly bear on this phase of natural science teaching are those of Harap,[45] Finley and Caldwell, Hunter, Davis, Osborne, Webb, Weckel, Brown, Rich, Richards, Glenn and Brookmeyer, Gordon and committee, Herriott, Powers, and Curtis. All but the first-named of these are referred to and summarized by Curtis.[46] Especial mention should be made of the excellent study by Craig.[47] Although this study is in the field of elementary science, the techniques used should prove valuable for similar studies in the field of secondary natural science.

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[39] O. W. Caldwell and Committee, *op. cit.*, Bureau of Education.

[40] F. D. Barber, "Fundamental Considerations in the Reorganization of High School Science," *School Review*, Vol. 23, 1915, pp. 9-22.

[41] Eikenberry, *op. cit.*, Chs. viii and ix, pp. 109-132.

[42] E. W. Bailey, A. L. Turner, and A. D. Laton, "Biology in the Reorganization of High School Sciences," *University High School Journal*, University of California, Vol. 4, 1924, pp. 36-45 and 122-129.

[43] Twiss, *op. cit.*

[44] C. J. Pieper and W. L. Beauchamp, *Teachers' Guidebook for Everyday Problems in Science* (Scott, Foresman & Co., 1927).

[45] Henry Harap, *The Education of the Consumer* (Macmillan Co., 1924).

[46] F. D. Curtis, *A Digest of Investigations in the Teachings of Sciences* (P. Blakiston's Sons & Co., 1926), Part III.

[47] G. S. Craig, *Certain Techniques Used in Developing a Course of Study in Science for the Horace Mann Elementary School* (Bureau of Publications, Teachers College, Columbia University, 1927).

2. *Criteria for the selection of suitable activities.* After the major units for each course have been submitted by teachers and agreed upon by teachers and supervisor, it is next in order to proceed to the selection of the activities and materials which are to serve as the media for developing the abilities required to attain the modes of adjustment represented by each unit (see p. 59). This work should be carried on continuously as classes proceed from unit to unit. Some important criteria for selection of the activities are as follows:

1. Are the activities interesting to the pupils?[48]
2. Are the activities of the proper degree of difficulty to insure serious endeavor and yet lead to the satisfaction of successful performance?
3. Do the activities develop the physical skills, emotionalized reactions and the other outcomes which we have previously mentioned (see page 55)?
4. Are the activities of such variety as represent the scope of the most significant problems of adjustment to the environment?
5. Do the activities represent the best selection from the great mass of activities which might be included to insure the attainment of the objectives?[49]

There have been no thorough investigations to determine the types of activities which are best suited to accomplish the goals which we have designated. The common experiences of teachers of natural science will, however, dictate the need for a great variety of physical and mental activities. Among those we may safely enumerate intensive and extensive reading, experimentation, discussion, preparation and presentation of oral and written reports, observation

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[48] G. S. Counts, "Some Notes on the Foundations of Curriculum-Making," Ch. vi of the *Twenty-Sixth Yearbook* of the National Society for the Study of Education, Part II.

[49] See Pieper and Beauchamp, *op. cit.*, pp. 3-7, for more detailed discussion of the criteria of selection of subject matter.

of materials and phenomena out of school, surveys in home, school, and community, preparation of summaries and outlines, interpretation of diagrams, collection and construction projects, and visits to museums, laboratories, and industries. This list should be greatly extended before it is used as a check list or guide in the selection of activities for the unit.

The supervisor should scrutinize the list of activities prepared by teachers from at least three significant points of view. First, he will bear in mind that pupils will be able to perform activities of greater difficulty or in greater number as the course proceeds. This implies that he will consider carefully with teachers the number and degree of difficulty of the activities in each unit. Second, he will see that the number and difficulty of the activities are such that pupils of different abilities and interests will be held to their highest level of attainment. Third, he will look for the recurrence of the more important types of activities in order to insure that the practice necessary to the attainment of skills and habits in scientific thinking is provided.

To provide the activities and the necessary materials in their best sequence within a unit requires constant research and experimental teaching. But this is not enough. There should also be for each unit abundant self-testing exercises so that the pupil may measure his own success in the performance of the activities. Often the activity will be its own test. Thus, if the activity is the preparation of a written report, it will test the pupil's ability to produce a satisfactory report. If, however, the activity is the study or intensive type of reading of a government bulletin or a chapter of a reference book, some self-testing exercise is necessary to furnish the pupil with a measure of his performance.

3. *The relation of textbooks to the organization of ac-*

tivities. The majority of natural science courses follow a textbook and manual. This practice is justifiable if the textbook and manual provide the types of activities and self-testing exercises which we have indicated, or if the textbook and manual are used to provide such activities as they do include and these are supplemented by other activities and self-testing exercises chosen by the teacher. In selecting a textbook for any course the teachers in conference with the supervisor should, therefore, carefully rate the available textbooks according to a rating scale which takes into account the organization and sequence of the units, the significance of the content in terms of human adjustment, the degree of difficulty of the activities and materials presented, the variety of useful activities included, the nature and worth of the self-testing exercises, the provision for individual differences of ability and aptitude, the value of the illustrations to the activities required, and the appeal of the book to the individual teacher.

No textbook and manual is complete in itself for the progressive teacher who sees education as functional activity. For this reason additional materials for reading activities, for experimentation, and for illustration must be provided in the form of other textbooks, manuals, bulletins and pamphlets from public and private organizations, lantern slides, motion pictures, magazines, pictures, exhibit materials, laboratory apparatus, and reference books. The supervisor will, therefore, acquaint his teachers with and assist in selecting these aids to proper learning. For suggestions concerning these "supplementary" materials the supervisor is referred to Swanson,[50] Roller,[51]

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[50] W. I. Swanson, *Guide to U. S. Government Publications*, Bulletin No. 2, 1918 (Government Printing Office).

[51] D. E. Roller, *Sources of Free Material for Use in the Teaching of Natural Science*, Monograph No. 1 (The University of Oklahoma).

Webb,[52] Pieper and Beauchamp,[53] Glenn,[54] Frank,[55] Twiss,[56] Meister and Powers,[57] the New England Association of Chemistry Teachers,[58] Walter,[59] Brown,[60] Woodring, Oakes and Brown,[61] and the back numbers of *School Science and Mathematics* and of *General Science Quarterly*.

4. *The grade placement of activities.* There is one further important consideration in the selection and organization of activities which the supervisor is constantly required to make. This relates to the grade placement of the activities. There appears to be only one formula for proper grade placement and that is experimental study. Theoretically the order of difficulty of an activity is the index to its grade placement. Practically

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[52] H. A. Webb, "The High School Science Library (1910-1924)," *Peabody Journal of Education*, Vol. 3 (1925), pp. 85-119; supplement, 1925-1926, *ibid.*, Vol. 3 (1926), pp. 340-347; supplement, 1926-1927, *ibid.*, Vol. 4 (1927), pp. 351-358; supplement, 1927-1928, *ibid.*, Vol. 5 (1928), pp. 278-290. Annual supplements are planned. Each list is available in bound form. Editor, *Current Science*, classroom weekly, American Education Press, Columbus, Ohio.

[53] C. J. Pieper and W. L. Beauchamp, *Everyday Problems in Science* (Scott, Foresman & Co., 1925), pp. 513-573.

[54] E. R. Glenn, "General Science References," *General Science Quarterly*, Vol. 4, 1920, pp. 478-500; E. R. Glenn and Committee, "Chemistry References for Students and Teachers," *School Science and Mathematics*, Vol. 21, 1921, pp. 477-482.

[55] Frank, *op. cit.*, Ch. xix, pp. 194-235.

[56] Twiss, *op. cit.*

[57] Morris Meister and S. R. Powers and others, editors of *The Science Classroom*, issued by *Popular Science Monthly*, New York City.

[58] New England Association of Chemistry Teachers, "A Chemistry Library for Secondary Schools" (1917).

[59] F. K. Walter, *Periodicals for the Small Library* (American Library Association, Chicago, 1924).

[60] Zaidee Brown, *Standard Catalog for High School Libraries* (H. W. Wilson & Co., 1926); supplement for 1926-1927 (1928).

[61] Maxie N. Woodring, M. Oakes, and E. Brown, *Enriching the Science Curriculum* (Bureau of Publications, Teachers College, Columbia University, 1928).

the order of difficulty will depend upon the available materials, the time available, the ability of the pupil, the effectiveness of guidance by the teacher, and the attitude of the pupil toward the work. Trial-and-error method with the keeping of accurate records of pupil accomplishment by the teacher is to be encouraged by the supervisor as the best means to grade placement.

The teaching process. We conceive classroom instruction to be primarily the motivation and the constructive guidance of pupil activities and, secondarily, the supplying of source material not available in the form of printed matter or material equipment. We do not conceive it to be merely the assigning and hearing of lessons prepared by the pupil and the providing for laboratory work.

At the outset it is imperative to suggest that the supervisor should not impose a teaching technique on his teachers. Whatever is done to improve the teaching techniques should result from open-minded coöperative study of the effectiveness of various types of teaching. It should be granted that the imposition of a technique may result in improving the work of poor teachers, but it is practically certain to result in creating a spirit of unrest and discontent and, worse still, in lowering the levels of efficiency of good teachers. The effectiveness of a technique is to be measured in terms of its modification of human adjustment and not in terms of how well the technique can be outlined in theory. Practical results, that is, definite data on improvement in the performance of specific activities, are the criteria of the effectiveness of a technique.

Fortunately, the number and worth of careful studies related to the effectiveness of various techniques is rapidly increasing. Curtis [62] has summarized most of the significant studies prior to 1925. Downing [63] has discussed

[62] Curtis, *op. cit.*, Part II, pp. 24-116.
[63] Downing, *op. cit.*, Ch. viii, pp. 111-142.

briefly the many different methods in use and has given a summary of the findings of certain investigations. Other studies have been reported in *School Science and Mathematics* during the past two years. Especial attention is called to the *Fifth Yearbook* of the Department of Superintendence, to the forthcoming yearbooks of the Department, and to a recent article by Curtis.[64] The study, by supervisors and teachers, of the findings of the different investigations will assist materially in modifying present obsolete practices and in suggesting a variety of problems for further investigation.

The proper scientific attitudes and methods necessary to the improvement of teaching technique require that the findings of the various studies and the experiences in teaching be carefully evaluated in the light of the conditions under which the data are collected. There is great danger in "jumping to conclusions" without critical study of all conditions and variables which enter into the learning situation. The science of science teaching is yet too immature and scanty for decisions as to the exact advantages of this or that technique. Above all, the findings of studies must be interpreted in the light of all valid objectives.

It is likely that proper motivation and guidance of learning activities will ultimately find and use elements from all the different techniques. Thus, there may be a place for the lecture, the informal talk, the lecture demonstration, the individual experiment, the project, the textbook recitation, the class conference, the question and answer plan, the quiz, and a variety of combinations of these and other so-called methods. The significant problem of method appears to the writer not to be "Which one

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[64] F. D. Curtis, "Some Reactions Regarding the Published Investigations in the Teaching of Science," *School Science and Mathematics*, Vol. 27, 1927, pp. 634-641.

method shall we employ'' but rather ''What combination of the effective phases of various so-called methods shall we employ in a specific problem or unit of instruction?''

Natural science teachers have much to learn from the contributions of the psychology of learning, and the supervisor should do all in his power to encourage teachers to study carefully the more general aspects of this field. Together they will agree on the major steps of the learning process. These steps they will apply in organizing and selecting the activities within each unit or division of the unit and in motivating and guiding the pupils in these activities. Whatever best motivates the particular learning situation and whatever provides the best guidance for effective learning will be selected as the elements of good technique. It is urged that the unit of instruction be made the basis for applying the steps in the learning process. It is the unit of instruction around which should center the application of the motivating and guiding techniques because the unit represents the major idea which is to be understood through the study of the contributing facts.

The important steps in a proper technique of instruction, as we conceive it to be applied to a unit, are: (1) the *diagnosis* of the individual pupil's ability to perform the activities included in the unit; (2) the *motivation* of the activities within the unit by means of discussion, lecture, demonstration, reading by teacher, reading by pupil, or other effective means; (3) the *guidance* of the performance of activities and study within the unit required of the individual pupil; (4) providing pupils with means of *self-testing* their progress; and (5) *measuring the attainment of pupils.* In his regular visits to the classroom the supervisor should observe, above all, how effectively these various steps are applied. His recorded observations will

furnish the proper basis for discussion and constructive criticism.

The *diagnosis* of the pupils' previous experience and present ability should be the first step in the approach to a new unit of instruction. It is only by such means that it is possible to decide upon the needs of the individual pupil as far as the unit is concerned. This diagnosis may be made in the form of a test, an individual conference, or a written report. It is essential that it be an individual diagnosis.

The *motivation* of the new unit may take a variety of forms as previously suggested. It serves to acquaint the pupil with the scope of the unit, to arouse his interest in the activities to be performed, to point out the significance of the particular aspect of the environment or the significance of the generalization included in the unit, and to clarify the direction of his individual work within the unit.

The *guidance* of the pupils' activities, following the motivation, presents numberless items for consideration. The teacher's personal qualifications, the classroom management, the effectiveness of the teacher's direction and supervision of study in any given activity, the choice and sequence of activities for the work of each day, and the spirit of the work are but a few of these items. The excellent check lists and outlines for observation and supervision by Johnson,[65] Parker,[66] Barr and Burton,[67] and Anderson, Barr, and Bush will indicate other items of importance. It should be noted, however, that most checking lists are based upon or imply the daily lesson

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[65] F. W. Johnson, *Administration and Supervision of the High School* (Ginn & Co., 1925), Ch. xviii, pp. 339-359.

[66] S. C. Parker, *Methods of Teaching in High Schools* (Ginn & Co., 1920), Ch. xxiii, pp. 512-522.

[67] Barr and Burton, *op. cit.*, Ch. v, pp. 113-137, and Ch. xii, pp. 448-493. See also Anderson, Barr, and Bush, *Visiting the Teacher at Work* (D. Appleton & Co., 1925).

plan of procedure, while our plan uses the unit of instruction as the teaching unit. The plan here proposed for this phase of instruction emphasizes the supervised or guided study activity plan. Helpful suggestions for this phase of instruction will be found in books by Morrison,[68] Johnson,[69] Douglass,[70] Stormzand,[71] Parker,[72] and in articles by Beauchamp [73] and Pieper.[74]

Providing pupils with means of *self-testing* exercises requires the use of a large variety of exercises so designed that they will test all of the important abilities which are required in natural science activities. This phase of instruction has not been so fully developed in natural science as in many other subject fields. Some suggestions regarding the variety of desirable exercises are given by Pieper and Beauchamp.[75]

The *measurement* of the attainment of pupils is the fifth step that we have outlined. The methods to be employed in this step will be discussed more fully in a later section. It should be recognized that the measurement of the results of instruction has a threefold purpose. First, it determines the possible need for further study by the pupil; second, it provides a basis for marks; and third, it enables the teacher to estimate the success of the motivation and guidance given.

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[68] Morrison, *op. cit.*, Ch. xvi, pp. 256-299.

[69] Johnson, *op. cit.*, Ch. xix, pp. 360-378.

[70] H. R. Douglass, *Modern Methods in High School Teaching* (Houghton Mifflin Co., 1926), Ch. iv, pp. 101-143.

[71] M. J. Stormzand, *Progressive Methods of Teaching* (Houghton Mifflin Co., 1924), Ch. iv, pp. 88-139.

[72] Parker, *op. cit.*, pp. 391-417.

[73] W. L. Beauchamp, "Supervised Study in Elementary Physical Science," *School Review*, Vol. 32, 1924, pp. 175-181.

[74] C. J. Pieper, "Supervised Study in Natural Science," *School Review*, Vol. 32, 1924, pp. 122-133.

[75] Pieper and Beauchamp, *Teachers' Guide Book*, *op. cit.*, pp. 12-20 and 22-31.

The steps in technique which we have presented call for emphasis of an individualized point of view of instruction. They do not, however, exclude the socialized activities. The group activities will find their proper place in the second, third, and fourth steps. There will be abundant opportunity for presenting personal experiences, for oral reports, for discussions, for debates, for group demonstrations and experiments, and for other forms of group exercises in steps 2, 3, and 4. The various activities following the first step will be determined upon the basis of the diagnosis. There will be provided additional activities for the pupil of special ability and aptitude. The slow pupil will require special guidance and treatment, and, in certain problem cases, extraclass remedial instruction.

We have indicated what we believe to be the significant elements of technique which the supervisor will observe and attempt to improve through conferences and group meetings. The general procedures in observation and constructive criticism lie outside the purpose of this chapter. The more general treatises on supervision and on methods of teaching in high schools will afford detailed discussions on these items.

The measurement of the learning products. The supervisor who attempts to improve present methods of measuring the outcomes of study activities in natural science can do little constructive work unless he keeps constantly before him the major objectives of the subject. The real measures of success in natural science study are the desirable redirections of pupils' interests, attitudes, appreciations, skills, habits, ideals, and actions. The redirections acquired in the study of a unit or a course may be measured by the increment of desirable activities which pupils can and do perform as a result of the instruction.

Our present-day tests and examinations tend to overemphasize information and knowledge as the goal of study.

They seem to assume that knowledge is a positive index of proper modes of adjustment. This assumption is only partially defensible. Merely to know is no assurance of behavior. But, in so far as knowledge is essential to adjustment, we may not discount its worth.

Many achievement tests overemphasize information and knowledge, but a still more serious fault is the emphasis on detailed facts. Detailed facts are the vehicles for thinking in natural science. They are not, however, the knowledge which we hold to be most important, that is, the understanding of the relationships of facts, or the generalized ideas. It is these generalized ideas which we seek to have pupils attain in the study of a unit or of the entire course. Our tests of knowledge should be formulated in such way that they measure these valuable results of natural science study.

The fact that some tests do include more than measures of acquired knowledge makes them of greater value. Thus, problem tests in physics and chemistry may call for the application or use of knowledge and may demand one or more species of scientific thinking. Similarly, test items which involve the interpretation of new situations demand more than recall and are, thus, measures of ability to use scientific knowledge or judgment. It is unnecessary to contend that such items should find a more extensive place in our tests.

During the last few years some attention has been given to the preparation of natural science tests which seek to measure the attainment of elements of ability other than knowledge. The task has been a difficult one largely because we cannot easily find precise measures of these other elements and because the tests are not easily administrable. The difficulty and delay in preparing such tests is occasioned by (1) our emphasis on knowledge or subject matter, and (2) our attempt to apply precision measures to quali-

ties or elements of ability which we have not yet defined. As examples of the tendencies toward modification of present new-type tests the reader is referred to articles by McClusky and Curtis,[76] Beauchamp and Webb,[77] Caldwell,[78] and Richards.[79]

It is assumed that the reader is familiar with the new-type examinations and especially those in the field of natural science. If he is not he should consult such books as Ruch's *The Improvement of the Written Examination* and Paterson's *Preparation and Use of New-Type Examinations.*[80] Also he will find references to most of the new-type tests in natural science in Downing's *Teaching of Science in the Schools* and in an article by Rich.[81] These tests should be obtained and carefully examined by the supervisor and teachers for suggestions leading to the improvement of measuring the results of learning.

At the present time tests for specific units of instruction are not generally available. Glenn and Welton [82] have prepared such test for chemistry. Pieper and Beauchamp [83]

[76] H. Y. McClusky and F. D. Curtis, "A Modified Form of True-False Test," *School Science and Mathematics*, Vol. 27, 1927, pp. 362-366.

[77] R. O. Beauchamp and H. A. Webb, "Resourcefulness, An Unmeasured Ability," *School Science and Mathematics*, Vol. 27, 1927, pp. 457-465.

[78] O. W. Caldwell, *Science Teaching in the Gary Schools* (General Education Board, New York City, 1919).

[79] O. W. Richards, "Test Construction in Less Standardized Subjects Illustrated by the Richards Biology Test," *School Science and Mathematics*, Vol. 27, 1927, pp. 22-27.

[80] See Bibliography at end of Ch. i of this volume.

[81] S. G. Rich, "The Available Tests for Results of Teaching the Sciences," *School Science and Mathematics*, Vol. 26, 1926, pp. 845-852.

[82] E. R. Glenn and L. E. Welton, *New Types of High School Chemistry Tests for Instructional Purposes* (E. R. Glenn, Lincoln School of Teachers College, Columbia University).

[83] C. J. Pieper and W. L. Beauchamp, *Factual and Major Ideas: Tests for Everyday Problems in Science* (Scott, Foresman & Co., 1928).

have recently completed a set of tests for the units included in their textbook. Similar tests for other natural science courses are in preparation. The lack of standardization in the various subjects makes it practically impossible to prepare unit tests for general use. But such unit tests should be prepared by each school for each unit of instruction as it is organized and studied by the pupils.

The self-testing exercises, which we have mentioned in the discussion of the steps in learning, afford means of measuring a great variety of abilities of pupils. These, however, are best used as the work of the unit proceeds. The pupils' results in these exercises give the teacher a fair measure of the pupils' attainment and have, moreover, the advantage of diagnosing the pupils' difficulties at the most opportune time. Since they are designed to measure progress within the unit, it is advisable to employ a general test at the end of the unit.

Several significant measures of the outcomes of learning in natural science not provided for by the best available new-type examinations merit the consideration and investigation by teachers and the supervisor. Among these we would mention in random order:

1. Essay type of examination which requires the systematic organization and presentation of ideas.
2. The nature of interests, attitudes, and habits acquired by pupils.
3. The number of attempts and the time required for completion of the self-testing exercises and for preparation and presentation of satisfactory oral and written reports on the unit.
4. The nature and extent of voluntary projects of all types.
5. The kind and quantity of voluntary extensive reading done and reported by pupils.

While these suggested additional measures may not at present be applied with the precision claimed for the new-type examination, this is not a sound reason for neglecting

them when attempting to arrive at a fair estimate of the pupil's growth. If they are valid measures of outcomes we shall find it imperative to experiment with and improve them. Nor is it to be admitted that some of these measures are less precise than certain tests for knowledge which we now employ.

The suggestions to the supervisor in the preceding paragraphs of this section may be summarized as follows:

1. Results are best measured in terms of the major objectives.
2. Present-day tests overemphasize information and knowledge.
3. Knowledge of relationships of facts is more significant than knowledge of detailed facts.
4. Test items calling for interpretation, comparison, discrimination, and evaluation are more significant in natural science than tests of detailed information.
5. Self-testing exercises afford excellent measures of progress especially if they call for a variety of physical and mental abilities.
6. Some test items should require the organization and presentation of related ideas.
7. The development of valuable interests, attitudes, appreciations, and habits should be measured.
8. The essay type of examination has a place in testing.
9. The extent and character of voluntary activities performed by pupils as the result of study of a unit or course are very significant measures of intellectual, emotional, social, and physical growth.

The supervisor has no more difficult and yet no more intriguing duty than to scrutinize and constructively to criticize the tests which teachers employ. Some of the queries which he will use as criteria of the value of a test are:

1. Does the test measure so far as possible all of the most important outcomes of learning?
2. Do the knowledge items refer to detailed facts or to the more important generalizations?
3. Do some items require scientific thinking rather than mere memory for their solution?

4. Do the knowledge items refer to ideas which are of significance in life and in later high-school and college courses?
5. Is the range of difficulty of the test items such that the test affords a means of measuring the attainment of the best as well as the poorest pupil?
6. Is this particular test as objective as it can be without sacrificing the purposes for which it is formulated?
7. Is the test readily administrable?
8. Does the test serve any valid purposes beyond providing the bases for marks?

It is urged that the supervisor also consider with the teachers means of ascertaining and recording the outcomes of natural science instruction that are not measured by the usual type of test and which have been enumerated in a preceding paragraph. Such consideration will serve to orient the teachers' vision of their opportunities and responsibilities and the form of records which they decide upon may be used to great advantage in arousing the pupils' interest and application in the required and supplementary work.

It is unnecessary to suggest to the supervisor that teachers should keep a complete set of records for all measurements of the results of learning. The form of these records should be decided upon in group conferences, and the supervisor should be responsible for placing in the hands of every teacher the necessary forms with printed directions for their use. The purposes which such records will serve are evident.

Testing and improving the supervision. There is no science of supervising natural science teaching. The field is relatively so new that there has been little crystallization of ideas concerning how to test and improve the supervision of natural science teaching. Significant experimental results are lacking.

Suggestions may be gained through reference to the

practices and studies in other fields. Barr and Burton have given an excellent summary of the methods of testing the results of supervision now in use. They have also listed the major fields for investigation of supervisory activities and present a long list of major unsolved problems in supervision.

Under existing conditions one can only suggest from one's own experience and from the experiences of others what appear to be worth-while means of testing and improving the supervision of natural science teaching. Objective data will furnish the bases for progress. These data may be collected by the supervisor from time to time through observation and in the form of reports submitted by teachers. The following types of data will furnish the supervisor with an index of the effectiveness of his supervision and will provide materials for the study and improvement of his responsibilities.

1. Scores on teacher-rating scales, such as the general rating scales
2. Scores on tests of classroom procedures, such as the Waples-Reavis test [84]
3. Scores on rating scale for natural science teachers, prepared by the supervisor and teachers
4. Records of attention of pupils in class work as shown by test charts [85]
5. Records of distribution of time to different activities as shown by time-chart studies [86]
6. Records of quantity and nature of professional literature made available for teachers and of their use of such literature
7. Records of distribution of supervisor's time to different activities

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[84] Douglas Waples and W. C. Reavis, *Classroom Procedure Test*, Form I (University of Chicago Press, 1926).

[85] Morrison, *op. cit.*, Ch. viii and ix, pp. 115-150.

[86] *A Quantitative Analysis of the Activities of Good and Bad Teachers*, Unpublished Bulletin, Bureau of Research, University of Wisconsin. (See brief description of Chart in Barr and Burton, *op. cit.*, pp. 597-600.)

8. Records of attainment of pupils in later high-school and college courses

9. Records of professional training and activities of teachers

10. Records of per capita cost of instruction in natural science, including teachers' salaries, classroom equipment, supplies, etc.

11. Records of enrolment in classes and of influences affecting the enrolment

12. Records of decisions reached in teacher conferences and staff meetings

13. Reports from teachers giving, with necessary comment or explanation:

(*a*) Unit analyses of courses
(*b*) Activities and references for each unit
(*c*) Number of class periods given to each unit
(*d*) Number of attempts and time required for self-testing exercises in each unit
(*e*) Unit tests and scores made by pupils
(*f*) The nature and quantity of voluntary reading done by pupils
(*g*) The nature and quantity of voluntary extraclass and home experimentation projects done by pupils
(*h*) Grade distributions, failures, withdrawals, and problem cases
(*i*) Available materials for instruction in each unit, such as reference books, laboratory supplies, pamphlets, bulletins, exhibits, lantern slides, films, maps, charts, pictures, etc., etc.
(*j*) Number of units completed each semester or year
(*k*) Results in laboratory work
(*l*) Nature and number of errors in written work by pupils
(*m*) Nature and degree of interests aroused in out-of-class activities in the field of natural science
(*n*) Materials and activities used in enriching courses for pupils of special abilities and aptitudes
(*o*) Remedial work for problem cases
(*p*) Correlation of natural science activities with English, drawing, art, mathematics, industrial arts, and household arts
(*q*) Natural science club activities
(*r*) Experimental teaching or learning studies initiated or completed.

This section and chapter should not be closed without a final word regarding the attitude of the supervisor in all of his activities. While it is essential to employ a scientific attitude and attack in all problems, it is imperative that the supervisor consider the personal relations with his teachers. This necessitates that the supervisor possess certain personal qualities. Among these qualities we would mention: (1) leadership, (2) integrity, (3) humility, (4) a deep professional spirit, (5) willingness to share the responsibility of failure as well as of success of instruction, and (6) a sincere, helpful attitude which leads to the contentment, happiness, and success of every teacher who gives promise of professional growth. Nothing is more humorous and yet more pathetic in the entire teaching profession than the superior officer who assumes a cold, scientific attitude in situations which involve living human relations.

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CHAPTER III

THE SUPERVISION OF MATHEMATICS

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The chief problem of supervision, whether it be by the principal of the school, the head of the department, or by the person specifically designated as "supervisor," is the improvement of instruction. To make instruction in mathematics most effective, those in charge are obliged to consider the aims governing the teaching of mathematics, the selection of subject matter, and the procedures or methods to be employed in the teaching process. We shall consider each of these three aspects of the problem.

Why do we teach mathematics in secondary schools? The obvious purpose of mathematics is to equip pupils with those mathematical abilities, meanings, and concepts which they are going to need in their various walks of life. And what are these abilities, meanings, and concepts? In answer to this, let us consider the common daily mathematical experiences of any competent layman, be that layman doctor, lawyer, business man, or a worker in any field one may choose.

1. *To meet the need for skill in computation.* We all agree that he has frequently recurring needs for facility and accuracy in computation. It is not necessary for us to catalogue the many activities of the day that involve the manipulation of figures. He starts the day by purchasing his daily news, and ends it by setting his alarm clock.

Between these first and last activities of the day enter countless others, varying in importance and in the degree of mathematical skill and accuracy which their successful handling requires.

2. *To acquire information about everyday business practices.* But our layman would find himself poorly equipped, indeed, if he had to meet the mathematical demands of the day with his computational skills alone. He needs information about business practices involving discounts, simple and compound interest, checks, savings accounts, insurance, investments, notes, and the like. Without this information he could not even read a newspaper intelligently; he would be the target of the swindler and fraud; he would be quite unprepared to protect himself, let alone win, in the great game of business and finance.

3. *To develop concepts of spatial forms and relationships.* It is perhaps equally obvious that an understanding of spatial forms and relationships, measurement of forms, distances, directions, locations, and sizes of certain types of objects is an indispensable requirement for intelligent life in modern society. Pause a moment and contemplate the paucity of meaning in the daily experience of a man unacquainted with the following notions: square, parallel, perpendicular, angle, hypothesis, triangle, circle, circumference, perimeter, theorem, proportional, axiom, locus, radius, projection, ratio, scale, proof, demonstrate, symmetry, tangent, and the like. One could continue indefinitely listing these concepts, the meaning and applicability of which are a direct outgrowth of the study of geometry. It is clear that several of the meanings listed above, such as proof, theorem, hypothesis, axiom, and demonstrate, are acquired only through the study of geometry.

4. *To develop the function concept.* A no less valid, though unfortunately less apparent, daily use of mathe-

matics is an understanding and appreciation of the idea of relationship between variables that change together or of mathematical law. An understanding of many of the generalizations of physics, chemistry, engineering, surveying, medicine, architecture, civil law, and political and social questions calls for comprehension of mathematical law. How is this mathematical law expressed? We find it in the graph, in the formula and in the statistical table, the tools by which mathematical relationships are discovered and expressed, the tools that are basic to clear "quantitative" thinking. It is not sufficient, however, that the layman be able merely to read these expressions of mathematical law; he must be able to interpret them critically. It is only when he can and does so evaluate information and relations that he is worthy of the title, "Thinking Citizen."

5. *To cultivate critical thinking.* It will be noted that the uses of mathematics enumerated above refer to specific skills, information, or concepts. Are there also any valuable by-products from the study of mathematics? What uses does the layman find for the *method of study* which he has developed in the mathematics classroom? It is believed (1) that he acquires a more critical attitude in arriving at his daily conclusions; (2) that his practice during the study of mathematics has made him keener in his discriminations between the true and the false; (3) that he has ideals of self-reliance and devotion to truth which guide him in passing judgments; (4) that incompleteness and vagueness of results bring him dissatisfaction, and that satisfaction is always inherent for him in thoroughness and completeness; (5) that he is able to recognize and reject irrelevant data when it appears in a discussion; (6) that he is cognizant of the value of careful organization of data as an aid to memory and to understanding; and (7) that the outcome from practice in the

"If this . . . , then that" kind of thinking has provided higher standards of criticism for his daily reasoning. Generally speaking, the layman who has acquired these standards through his methods of mathematical study, has been enabled to do so through having had the benefit of proper methods of teaching. The procedure of teaching most conducive to the development of desirable attitudes, habits, and ideals will be discussed later in this chapter.

May we not agree then that the valid aims for teaching mathematics lie in those daily uses which the layman finds for the subject; namely: (1) the development of skill and accuracy in computation; (2) information about common business practice using quantitative methods; (3) an understanding of, and some skill in measuring, the properties of space forms; (4) familiarity with the concept of "law" and the ability to appraise critically information and relationships set forth in the formula, graph, and table; and (5) the development of proper ideals, attitudes, and habits of thinking and reasoning?

6. *An illustrative statement of mathematical values.* The general aims of teaching mathematics have just been considered. They are also the particular aims of teaching mathematics in those grades in which it is generally required, seven, eight, and nine. In the teaching of elective courses of mathematics in the senior high school, one finds both an intensification and an extension of these aims. Senior high-school courses must be prepared to meet the needs of three groups of pupils: (1) those who are preparing to enter colleges or technical schools; (2) those who are preparing for specialized work in science and in the commercial subjects; and (3) those who study mathematics because of the sheer intellectual joy and satisfaction they find in its mastery.

Let us consider first what contribution demonstrative geometry makes to these three classes of students. Its

primary function is to develop in the student the power to analyze, discover, and prove geometric facts in the way best calculated to create permanent habits of effective thinking, regardless of whether it is considered as preparation for future work in mathematics or in a field closely allied to it, or as preparation for and training in habits of independent thinking—habits essential for success in life. Geometry offers abundant opportunities for appropriate training in such analysis, discovery, and proof.

The reader will undoubtedly agree that in so far as the study of geometry can be made to train the student in the methods and habits of thought that result in power to reason and analyze, to discover and originate new ideas, and to prove in a logical manner that which has been discovered, the value of the study for these purposes is far greater than its value in merely imparting knowledge of geometrical facts as such.

Indeed at present when the curricula of our schools are becoming richer and richer with subjects of vital content—subjects that appeal to the student as of practical value in life—geometry must justify its place in the school by paying dividends in excess of mere knowledge of geometric facts.

A teacher of geometry would probably justify the study of geometry to a pupil in some such manner as the following:

As you open this book and look through it, you may ask yourself, "Why should I study geometry? Is it of any value? If so, what value?"

We shall tell you frankly that the truths you learn in this course you will not apply to everyday affairs as often as those of some other subjects. You will learn many new and interesting facts about space, about lengths and areas, about symmetry and design. But to teach you these facts is not the chief purpose of this course. Its chief purpose is to teach you how to think, how to reason, how to investigate and discover new facts for

yourself, how to convince others of the truths you have discovered, how to prove that what you believe is true.

Do you wish to be resourceful—to know how to attack new problems in such a way that you can solve them? Do you wish to learn how to express ideas in clear, concise English? If you study geometry with a desire to learn, you will take a great enjoyment in it. You will enjoy convincing others of what you believe and proving it beyond doubt.

The value you get from the study of geometry depends upon your method of study. If you endeavor merely to memorize the facts presented herein, you will get no worthwhile value from the book. But if you try always to discover as much by yourself as possible and to use as few as possible of the helps and hints given in the book, you will find your power to think, to analyze, to reason, and to convince, growing every day. Cultivate the habits of being independent, of doing your own thinking. Try to get ahead of the book. In so doing you will develop resourcefulness and originality. These qualities will help you to be successful in life.

The justification for plane and spherical trigonometry and intermediate algebra in the high-school curriculum is somewhat less impressive than that of demonstrative geometry. The first two groups of students have, however, real need for the subjects as preparation for their future work, and one must concede some transfer value in the development of valuable habits of thought to all the groups. Courses in college algebra, analytical geometry, projective geometry, the calculus, and vocational mathematics are, it is true, specialized in value, but they meet a real need in the lives of the students who want preparation for future work in calculation, and this need must be met.

The materials of instruction. The second major problem confronting the supervisor of instruction in secondary mathematics is the choice of teaching materials. During the last decade the problem of the selection of the content of courses in mathematics, or the making of a course of study, has commanded widespread attention. State departments of education, cities, and national committees have

been engaged in constructing courses of study that would facilitate a realization of the primary aims or objectives governing the teaching of various subjects. Notable among these are the "Reorganization of Mathematics in Secondary Schools," a report of the National Committee on Mathematical Requirements, and the Denver *Course of Study Monographs in Mathematics.*

1. *What to teach in the junior high school.* The ninth school year has come to be regarded by school men as the last year of required mathematics. Let us first then consider the criteria for the design of a course of study in required secondary mathematics, that is, the mathematics in the junior high school. Keeping in mind the aims formulated in the first part of this discussion, we see that there are criteria that must be satisfied in the construction of this course of study. They are:

a. The social-need criterion. The immediate need implied in this criterion is that the daily mathematical needs of the pupil both inside and outside the school must be met by his training in the mathematics classroom. The ultimate, and as has been said before, more comprehensive consideration is that the course of study should include those topics which meet the needs of adults in their occupational and nonoccupational activities. Such topics should be included, however, only if they are common to the needs of a relatively large proportion of the adult population, and if the topics can be given meaning and interest for the children.

b. The psychological criterion. Each element of the materials chosen in the light of the first criterion must be organized in terms of the conditions of effective learning. The whole course must be arranged so that there is gradually increasing difficulty and so that it harmonizes with the ways in which children learn. Much classroom experimental work has been and is being done in the determina-

tion of the best methods of grading subject matter in terms of the learning of children.

The suggested courses of study which follow have been planned with these criteria in view. Containing, as they do, the important applications of arithmetic, the main features of intuitive geometry, the meaning and uses of algebra, the nature and uses of numerical trigonometry, and the nature of logical proof, they aim to give pupils the training they require, whether they enter the senior high school or leave school at the end of the ninth grade.

c. Recommendations of the National Committee. The following recommendations of the National Committee for the junior high-school curriculum in mathematics have been accorded a prestige seldom given to the work of any committee.

In view of the fact that under this form of school organization pupils may be expected to remain in school until the end of the junior high-school period instead of leaving in large numbers at the end of the eighth school year, the mathematics of the three years of the junior high school should be planned as a unit. The following plans for the distribution of time are, however, suggested in the hope that they may be helpful, but no one of them is recommended as superior to the others, and only the large divisions of material are mentioned.[1]

PLAN A

First Year: Applications of arithmetic, particularly in such lines as relate to the home, to thrift, and to various school subjects; intuitive geometry.

Second Year: Algebra; applied arithmetic, particularly in such lines as relate to commercial, industrial, and social needs.

Third Year: Algebra, trigonometry, demonstrative geometry.

By this plan the demonstrative geometry is introduced in the third year, and arithmetic is practically completed in the second year.

[1] *The Reorganization of Mathematics in Secondary Education,* a report by the National Committee on Mathematical Requirements, J. W. Young, Chairman, pp. 29*ff.*

Plan B

First Year: Applied arithmetic (as in plan A); intuitive geometry.

Second Year: Algebra, intuitive geometry, trigonometry.

Third Year: Applied arithmetic, algebra, trigonometry, demonstrative geometry.

By this plan trigonometry is taken up in two years, and the arithmetic is transferred from the second year to the third year.

Plan C

First Year: Applied arithmetic (as in plan A) intuitive geometry, algebra.

Second Year: Algebra, intuitive geometry.

Third Year: Trigonometry, demonstrative geometry, applied arithmetic.

By this plan algebra is confined chiefly to the first two years.

Plan D

First Year: Applied arithmetic (as in plan A), intuitive geometry.

Second Year: Intuitive geometry, algebra.

Third Year: Algebra, trigonometry, applied arithmetic.

By this plan algebra is confined chiefly to the first two years.

Plan E

First Year: Intuitive geometry, simple formulas, elementary principles, statistics, arithmetic (as in plan A).

Second Year: Intuitive geometry, algebra, arithmetic.

Third Year: Geometry, numerical trigonometry, arithmetic.

Under "arithmetic," the Committee would have us include:

(*a*) The fundamental operations of arithmetic.

(*b*) Tables of weights and measures in general practical use, including the most common metric units (meters, centimeter, millimeter, kilometer, gram, kilogram, liter). The meaning of such foreign monetary units as pound, franc, and mark.

(*c*) Such simple fractions as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{5}$, $\frac{1}{8}$; others than these to have less attention.

(*d*) Facility and accuracy in the four fundamental operations; time tests, taking care to avoid subordinating the teaching to the tests or to use the tests as measures of the teacher's efficiency.

(*e*) Such simple short cuts in multiplication and division as that of replacing multiplication by 25 by multiplying by 100 and dividing by 4.

(*f*) Percentage. Interchanging common fractions and per cents; finding any per cent of a number; finding what per cent one number is of another; finding a number when a certain per cent of it is known; and such applications of percentage as come within the student's experience.

(*g*) Line, bar, and circle graphs, wherever they can be used to advantage.

(*h*) Arithmetic of the home: household accounts, thrift, simple bookkeeping, methods of sending money, parcel post.

Arithmetic of the community; property and personal insurance, taxes.

Arithmetic of banking: savings accounts, checking accounts.

Arithmetic of investment; real estate, elementary notions of stocks and bonds, postal savings.

(*i*) Statistics: fundamental concepts, statistical tables and graphs; pictograms; graphs showing simple frequency distributions.

By "intuitive geometry" the Committee means:

(*a*) The direct measurement of distances and angles by means of a linear scale and protractor. The approximate character of measurement. An understanding of what is meant by the degree of precision as expressed by the number of "significant" figures.

(*b*) Areas of the square, rectangle, parallelogram, triangle, and trapezoid; circumference and area of a circle; surfaces and volumes of solids of corresponding importance; the construction of the corresponding formulas.

(*c*) Practice in numerical computation with due regard to the number of figures used or retained.

(*d*) Indirect measurement by means of drawings to scale; use of square ruled paper.

(*e*) Geometry of appreciation; geometric forms in nature, architecture, manufacture, and industry.

(*f*) Simple geometric constructions with ruler and compasses, T-square, and triangle, such as that of the perpendicular bisector, the bisector of an angle, and parallel lines.

(*g*) Familiarity with such forms as the equilateral triangle, the 30°—60° right triangle, and the isosceles right triangle; symmetry; a knowledge of such facts as those concerning the sum of the angles of a triangle and the Pythagorean relation; simple cases of geometric loci in the plane and in space.

(*h*) Informal introduction to the idea of similarity.

According to the Committee the algebra of the junior high school should include:

1. The formula—its construction, meaning and use (*a*) as a concise language; (*b*) as a shorthand rule for computation; (*c*) as a general solution; (*d*) as an expression of the dependence of one variable upon another.

The pupil will already have met the formula in connection with intuitive geometry. The work should now include translation from English into algebraic language, and vice versa, and special care should be taken to make sure that the new language is understood and used intelligently. The nature of the dependence of one variable in a formula upon another should be examined and analyzed, with a view to seeing "how the formula works."

2. Graphs and graphic representations in general—their construction and interpretation in (*a*) representing facts (statistical, etc.); (*b*) representing dependence; (*c*) solving problems.

After the necessary technique has been adequately presented graphic representation should not be considered as a separate topic but should be used throughout, whenever helpful, as an illustrative and interpretative instrument.

3. Positive and negative numbers—their meaning and use: (*a*) as expressing both magnitude and one of two opposite directions or senses; (*b*) their graphic representation; (*c*) the fundamental operations applied to them.

4. The equation—its use in solving problems: (*a*) linear equations in one unknown—their solution and applications; (*b*) simple cases of quadratic equations when arising in connection with formulas and problems; (*c*) equations in two unknowns, with numerous concrete illustrations; (*d*) various simple applications of ratio and proportion in cases in which they are generally used in problems of similarity and in other problems of ordinary life. In view of the usefulness of the ideas and training involved, this subject may also properly include simple cases of variation.

5. Algebraic technique: (*a*) The fundamental operations. Their connection with the rules of arithmetic should be clearly brought out and made to illuminate numerical processes. Drill in these operations should be limited strictly in accordance with the principle mentioned. In particular, "nests" of parentheses should be avoided, and multiplication and division should not involve much beyond monomial and binomial multipliers, divisors, and quotients.

(*b*) Factoring. The only cases that need be considered are (*i*) common factors of the terms of a polynomial; (*ii*) the difference of two squares; (*iii*) trinomials of the second degree that can be easily factored by trial.

(*c*) Fractions. Here again the intimate connection with the corresponding processes of arithmetic should be made clear and should serve to illuminate such processes. The four fundamental operations with fractions should be considered only in connection with simple cases and should be applied constantly throughout the course so as to gain the necessary accuracy and facility.

(*d*) Exponents and radicals. The work done on exponents and radicals should be confined to the simplest material required for the treatment of formulas. The laws for positive integral exponents should be included. The consideration of radicals should be confined to transformations of the following types:

$$\sqrt{a^2b} = a\sqrt{b},\ \sqrt{a/b} = \frac{\sqrt{ab}}{b} \text{ and } \sqrt{a/b} = \sqrt{a}/\sqrt{b}$$

and to the numerical evaluation of simple expressions involving the radical sign. A process for finding the square root of a number should be included, but not for finding the square root of a polynomial.

(*e*) Stress should be laid upon the need for checking solutions.

A study of the Committee's recommendations indicates clearly its desire (1) to reduce the amount of time usually given to arithmetic in grades seven and eight; (2) to eliminate a great deal of "dead-wood" from the course; (3) to introduce certain new topics and methods, notably experimental geometry, numerical trigonometry, and

statistics; and (4) to make mathematics more meaningful and useful.

A dozen interpretations of the new curriculum appear in junior high-school mathematics textbooks. Each represents a sincere attempt to get a more vital, more interesting, more worthwhile selection and organization of mathematics. The lack of agreement among seven sets of these series of textbooks is pointed out by Schorling:[2]

> This table reveals an astonishing degree of variation. It would seem difficult for a parent to predict what large field of mathematics his child will be expected to study.
>
> Election of mathematics might mean arithmetic, geometry, algebra, or general mathematics. This is even true of the last half of the ninth grade. Three of the books offer plane geometry, one, arithmetic only, one, general mathematics, including a unit of trigonometry, and two offer algebra, each including a unit of trigonometry. Is there any wonder that school executives, supervisors, committees working on courses of study, to say nothing of the beginning teachers, are confused by the wholly different offerings presented? We have here evidence of distinctly different hypotheses concerning the organization of materials for these grades.

To a student of education, it is apparent that the junior high-school curriculum is still in a state of transition from the old eight-year elementary school and four-year high school. After two decades more of experimentation, we shall probably find that the mathematics of the junior high school will have been changed considerably.

2. *What to teach in the senior high school.* *a.* Plans suggested by the National Committee. What should be the content of the senior high-school curriculum? Few if any curriculum investigations have been conducted in this field.

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[2] Raleigh Schorling, *A Tentative List of Objectives in the Teaching of Junior High-School Mathematics* (George Wahr, Publisher, Ann Arbor, Mich., 1925).

Text	Seventh		Eighth		Ninth	
	1st Half Year	*2nd Half Year*	*1st Half Year*	*2nd Half Year*	*1st Half Year*	*2nd Half Year*
A	Arith.	Intuitive Geometry	Algebra	Arith.	Algebra and Trig.	Plane Geometry
B	Arith.	Geometry	Arith.	General Math.	Algebra	Algebra
C	General Math.	General Math.	General Math.	Arith.	Algebra	Algebra and Trig.
D	Arith.	Arith.	General Math.	General Math.	Algebra	Plane Geometry
E	General Math.	General Math.	Algebra	Algebra	Arith.	Arith.
F	Arith.	Arith.	Int. Geometry	General Math.	General Math.	Gen. Math. and Trig.
G	General Math.	General Math.	General Math.	General Math.	Algebra	Plane Geometry

In the judgment of the National Committee, any one of the following arrangements of subjects is desirable. Few courses, however, have been organized in conformity with these plans.

PLAN A

Tenth Year: Plane demonstrative geometry, algebra.
Eleventh Year: Statistics, trigonometry, solid geometry.
Twelfth Year: The calculus, other elective.

PLAN B

Tenth Year: Plane demonstrative geometry, solid geometry.
Eleventh Year: Algebra, trigonometry, statistics.
Twelfth Year: The calculus, other elective.

PLAN C

Tenth Year: Plane demonstrative geometry, trigonometry.
Eleventh Year: Solid geometry, algebra, statistics.
Twelfth Year: The calculus, other elective.

PLAN D

Tenth Year: Algebra, statistics, trigonometry.
Eleventh Year: Plane and solid geometry.
Twelfth Year: The calculus, other elective.

In no one of the four plans is an entire year to be devoted to a single subject. In each of the plans the calculus is recommended for the twelfth grade. Statistics is recommended in each plan.

Acceptance of these proposals would necessitate a reorganization of present-day courses in algebra and geometry. They are already overloaded. It is probable that the strong criticisms which have been directed against the older courses in elementary (first-year) algebra would be even more apropos in an examination of the validity of the inter-

mediate (second) courses in algebra. These grades offer a most fertile field of investigation for specialists in curriculum construction.

b. An experimental curriculum. The published statements of two of the schools that have ventured to break with traditional practice in these grades are worthy of consideration: the University High School[3] of Oakland, California, and the Lincoln School[4] of Teachers College.

The confidence of the writer in the experimental work reported from the Lincoln School, makes it seem appropriate to quote at some length from an account of this work:

> The course is designed to replace the one-semester units of intermediate algebra, trigonometry, solid geometry, and advanced algebra which, with various permutations of the last three subjects, is the customary offering of the last two years of the high school. It is felt that work arranged on a year's basis can be more economical of time and that it can present a truer conception of mathematics as a unified body of thought.
>
> The inadequacy of the one-semester arrangement in the colleges has resulted in the development of general courses for the freshmen, providing greater appreciation of the nature and usefulness of mathematics and an earlier introduction to concepts once reserved for later years.
>
> It is true that the texts used for the one-semester courses in the colleges are frequently taught with success in the high schools. It has been the experience of the writers, however, that the works written for the unified freshmen courses in college are too condensed to be used as the sole texts in an eleventh-grade class. Furthermore, such books frequently assume knowledge which the student has not acquired at this time. The use of these texts, supplemented by more elementary material, on the other hand, gives convincing evidence of the possibility of teaching the subject matter to pupils of these classes. In the twelfth grade, the

[3] *Second Yearbook*, National Council of Teachers of Mathematics (Bureau of Publications, Teachers College, Columbia University, 1927).

[4] *The Mathematics Teacher*, Vol. 19, No. 4.

case is somewhat different, and such works may be used as the sole textbook with profit, the reason being that the pupil who elects this work is generally particularly apt in mathematics and he is likely to be superior in this regard to many of the students who study the subject as college freshmen.

The purpose of the course is to offer elective work, to which a year of plane geometry is prerequisite, with subject matter that is sound from the standpoint of the mathematician and useful for the citizen whose interests make him wish a broader knowledge of the subject than his constant needs require. Since this work is to be elective, it is necessary that the first year be a unit in itself, for many students will limit themselves to this year only. During the time in which this course has been in operation, the pupils planning to enter college with advanced credit have followed both years of the sequence. Those offering only elementary algebra and plane geometry have fulfilled that requirement by the end of the eleventh-grade work.

A detailed statement of the content of these courses is given at the close of this article, but certain sections require a preliminary word of explanation.

The review of ninth-year algebra at the beginning of the eleventh grade is given with a constant effort to make the student appreciate the logic that is involved. The review thus accomplishes a dual result: bringing back to the pupil's mind the work he has probably forgotten, and giving him a deeper conception of its significance.

The dominant idea of the year's work is the function concept —a choice which may be justified both by the universality of its use in science and in business and also by its importance in later work in mathematics. Certain mathematical terms descriptive of different types of variation are discussed during the study of graphs and statistical tables, with the purpose of equipping the student with a vocabulary that will permit the concise and clear summarizing of them.

In the treatment of linear functions, work in the analytic geometry of the straight line is introduced. As a result, the pupils are able to derive the mathematical formulas, as for example Hooke's Law, that connect empirical data obtained from experiments performed in class.

The work in trigonometry includes the logarithmic solutions of right triangles and of triangles which may be solved by the Law of Sines. This topic is connected with the theme of the

year's work through the illustration of periodic functions brought out in the study of the general angle. The other topics of the traditional course in trigonometry are postponed until the senior year.

A short unit in mechanics is introduced for the purpose of showing the application of trigonometry to problems involving quantities that have direction as well as magnitude.

The discussion of quadratic functions includes the algebraic and graphical treatment of quadratic equations. The locus work of plane geometry is extended by considering the parabola, circle, ellipse, and hyperbola as loci.

This work occupies about two-thirds of the year—a time-schedule made possible by the subordination of topics whose sole use lies in solving intricate and improbable examples, and by the economy resulting from the close organization of the work.

The remainder of the year is given to a unit of solid geometry for the purpose of strengthening the pupil's concept of spatial relations and enabling him to prove familiar formulas regarding areas and volumes. The traditional work of Book VI is given with particular emphasis on the idea of orthogonal projection. An algebraic approach to certain theorems regarding areas and volumes is made possible by the use of the formula for the sum of the squares of the first n integers, which has been derived previously by mathematical induction. In a number of theorems, the ideas of the summation of small elements and the limit of a sum are involved, and thus the student receives an informal introduction to the notion of the calculus without using any of its formal technique. The course omits the topic of spherical geometry but includes, for its informational value, a discussion of different types of projection as applied to map-making.

The order of work in the twelfth year is somewhat governed by the fact that many of the students expect to take a college entrance examination in advanced mathematics in the spring. Accordingly, the last half of the year is devoted to advanced algebra and to completing the work in trigonometry. The content of this work is largely that stated in the requirements of the College Entrance Examination Board for this subject (Mathematics Cp. H), but the technique acquired in the first half year is used whenever possible.

The key idea of the first-half-year's work is the extension of the function concept to that of the rate of change of a variable quantity. This leads directly to the introduction of differentia-

tion and to its applications to mechanics in velocities and accelerations. The indefinite integral as the inverse of the derivative, is used both in the computation of more intricate areas and volumes than those treated at the close of the eleventh grade, and also in the solution of problems dealing with momentum, force, and work.

How shall mathematics be taught? We come now to the third concern of the teacher or supervisor of mathematics—the influence of *method* of teaching upon *outcome* of instruction. That a high-school pupil in a geometry class may learn much more than the facts or information represented by the theorems and corollaries is axiomatic to the student of psychology. The pupil may learn either to like or dislike mathematics simultaneously with his study of its propositions; he may learn either to depend upon his memory or to reason for himself; he may learn how to attack a problem by an effective or an ineffective plan; he may or may not learn to prize clarity and precision in the use of language; he may or may not come to be critical of argument in non-geometrical fields. The outcomes depend upon the procedures or techniques, both of teacher and pupil.

Let us consider how methods of teaching are related to the development of skills, power in problem solving, and to the more generalized by-products which we shall call attitudes and ideals, to the formation of which we may reasonably expect the study of mathematics to lead.

1. *How to acquire skill in computation.* What is facility or skill in computation? A person has skill in computation when he has learned a great many simple facts such as that 8 and 9 are 17, that 6 times 9 are 54, that 22 contains 7 three times and one over, how to "borrow," how to "carry," how to place partial products, and how to place a decimal point so thoroughly that he can call these facts to his mind at will when he needs them in computa-

tion. Learning a fact like the one, 8 and 9 are 17, consists of forming a neural or brain connection between the thought of "8 and 9 are" and the thought of "17" and of strengthening this connection so that it will be permanent. Psychologists call a brain connection of this sort a "configuration," or a "bond" and it is for the establishment of these configurations or bonds that we work in computation.

How may permanent forms of reaction be established? The answer to this question has been sought by psychologists for many years. They have found that the formation of a bond such as "8 and 9 are 17" is facilitated by a number of conditions. One of these is the repetition of the idea that is to be learned, another is the purpose that the pupil feels in learning it, and a third is the degree to which he understands the idea he is learning. Let us consider these three conditions in detail.

a. Repetition. Up to a certain limit, the more times a pupil has thought "8 and 9 are 17" the more readily this thought comes to his mind when he needs it in computation and the less likely he is to forget it, or to think that 8 and 9 are 18 or 16. The importance of repetition is dependent upon vividness and upon the purposes and incentives named in the following paragraph.

b. Purpose. A second condition in the formation of bonds is the attitude of mind the pupil has while he is thinking, for example, "8 and 9 are 17." It has been found that if the pupil is thinking 8 and 9 are 17 because he wants to learn this fact in order to achieve some goal which he very much desires to achieve, he will be more likely to remember the fact than if he were merely saying "8 and 9 are 17," without having any purpose of his own in so doing; and he will learn this fact with much less repetition and with greater satisfaction. Among the incentives or purposes which a pupil may have for practicing to

establish mental connections are (1) the desire to overcome a recognized deficiency in his ability to solve a present problem, requiring the use of these reactions or bonds; (2) recognition of a need for these bonds in the solution of problems in the future; (3) interest in achievement resulting from the practice itself; (4) the desire to excel others; (5) social prestige; (6) the avoidance of undesirable consequence, such as punishment, criticism, and failure.

c. Rationalization. Should a pupil practice blindly or should he understand principles of the process that he is learning? While in the lower grades it is not essential, or even desirable in many cases, to make full explanations of processes being learned, the pupil should there see the connection of the present experience with what has preceded. In the intermediate grades one of the recognized secondary purposes of instruction in mathematics is to rationalize—to make reasonable and intelligible to the pupil the various steps in computation and problem solving.

Should explanation and theory precede, accompany, or follow practice? In the older courses practice was preceded by theory. Modern psychology teaches, however, that understanding is facilitated by combining theory with practice. It is the practice with exponents accompanied by reflection concerning their meaning and use that results finally in a complete understanding of exponents. It is not through study of the rules or "laws" of exponents, either preceding or following practice with exponents, that results in real understanding of them. It is instead the understood relationship to the total mental configuration. In the older methods, rationalization preceded habituation; in the new methods rationalization and habituation go hand in hand.

d. Arrangement of drill material. The repetition of computations calling for continued recall of facts and

methods by the pupil, which are assigned for the establishment of bonds, that is, to "fix in the mind" that which is learned, we call drill. Drill, then, to function at its best should consist of rationalized, purposeful repetition, and, in providing for such drill, it is necessary to take into account (1) length of drill periods, (2) frequency of drill periods, (3) variety of material, and (4) the amount of mastery to be set as a goal.

The optimum length of a drill period is believed to be between three and ten minutes, depending upon the nature of the material. It is generally agreed that drill upon a particular kind of skill should be distributed over a number of periods, with greater and greater intervals between practice periods. There should be much variety in the content and form of the drill lessons in order that interest and retention may be increased. The skills or bonds that are widely used should be so thoroughly learned that pupils will have a very high accuracy in computation.

The older method of presenting drill material provided, let us say, one hundred examples in adding single columns. No time limit, no specific goal, no record of improvement, was employed. The newer method uses the *practice exercise,* containing a score or more of learning exercises, with a definite standard of achievement. To attain this standard or goal the pupil practices again and again, recording his progress. He may be obliged to repeat the exercise from three to eight times, thereby receiving as much or even more practice than if he did all of the exercises in the long list that was used under the old method. The practice exercise requires a small amount of space in the book and provides more drill than was formerly provided by several times the amount of space devoted to single column addition. A hasty examination of books using the newer plan of organizing drill material might lead to the erroneous impression that an insufficient amount of drill had been

provided. Clearly, counting the number of different examples does not give a measure of the amount of drill, for it overlooks the fact that each practice exercise requires many repetitions.

2. *Helping pupils in problem-solving.* Since the real purpose of teaching mathematics is to enable boys and girls to solve the problems that occur in life—in the home, in the store, in the shop, it is these problems that should be brought into the classroom whenever possible. It is often inconvenient, not to say impossible, however, to bring these life problems directly into the classroom. Let us suppose, for example, that John Smith has decided to go into the taxi business. In so going, he will be confronted with many genuine problems, the solutions of which are of great moment to him. Obviously the teacher cannot provide such first-hand experiences for the children. The best he can do as a substitute is to describe John's experience in the taxi business, bringing out the problems he would meet. Similarly for the numerous other kinds of problem experiences which cannot be brought into the classroom, it is necessary to substitute problems formulated or stated in words.

Unfortunately, the major part of the problem material in courses in mathematics must necessarily consist of these formulated problems, so that they will most nearly represent the true problems of life, in order to give the greatest assurance that the pupil's practice in solving them will function later when the same problems or similar ones are met. In making the actual choice of problems, we must take into account their relative importance in life and the degree to which they are likely to interest children of the ages we are teaching.

It has been found that when pupils feel the same way toward the problems that they are solving in school that John does toward his in his taxi business, they learn more

easily. Hence it is highly desirable that school problems be as real and important to the pupils as John's are to him. Our second important concern, therefore, is that the situations or projects giving rise to these problems shall be described in such a way that the pupil thinks of himself as experiencing these problems. Thus, if possible, we wish each pupil in the class to imagine that he himself is going into the taxi business, borrowing money to start a store, or planting an acre of corn, in order that he may learn the facts and procedures involved more easily.

If we consider also the steps that must be taken in solving a problem, these will help to determine how problems should be formulated, and they will throw light upon other important aspects of the teaching of mathematics.

Analysis of a typical act of solving a problem shows that it consists of four steps: (1) sensing the problem (or question); (2) appreciating the facts that are available for the solution of the problem; (3) seeing the relations between these facts and their bearing upon the solution of the problem, and knowing what operations must be performed and in what order they must be performed; and (4) performing the computations suggested in the preceding step.

a. The first step: sensing the problem. When a pupil has difficulty in solving a problem, it may be that the problem is formulated in such a way that the pupil does not understand the situation out of which the problem grew and consequently does not grasp the problem. For example, let us consider the following: "Determine the altitude of a right circular cylinder whose volume is 693 cubic inches and whose radius is $3\frac{1}{2}$ inches."

Pupils have difficulty with a problem of this sort. Why? They do not think in terms of right circular cylinders, volumes, and radii, and, besides, they may not see any point in finding an "altitude." Life problems do not occur in this form. If a child should ever encounter these

computations, it would undoubtedly be because he wished to make some particular kind of a vessel to hold 3 gallons (693 cubic inches) and have a diameter of 7 inches and wished also to know how tall to make it. Therefore the problem should be presented in some such form as the following.

Mr. Keel, the tinsmith, took an order to make a gasoline can which would hold exactly 3 gallons. He wanted the diameter to be 7 inches. He did not know how high to make the gasoline can. Can you tell him?

Let us consider this problem for a moment. Why is it more likely to be understood by the pupil than the one previously stated? First of all it is appreciated by the pupils as being a problem that some individual met or could easily have met in life; that is, it is plausible to the pupil. Second, it is stated in plain words which are familiar to the child; technical words such as altitude, volume, and determine, are not used because they do not occur in the life situation.

b. The second step: appraising available data. This step, as teachers know, seldom causes failure in problem solving. Do you see a reason for this? May it not be that the persons who formulate problems—textbook writers—are at fault in some way? May it not be that in presenting only those data that are needed for the solution of the problem (as is done in almost all cases) and in presenting no irrelevant data, we are very much over-simplifying the problem for the pupil and robbing him of the practice that he should have in selecting from a great mass of available data those items, and only, those items, that are essential to the solution of the problem at hand? Would it not be better in presenting a problem to give both relevant and irrelevant data, not to make the problem more difficult, but to make it more truly represent the problem as it would be met first hand?

c. The third step: seeing or analyzing relations. As a concrete example, in the problem of finding the height of the gasoline can, this step consists in recognizing that the height is found by dividing the number of cubic inches in volume by the number of square inches in the area of the base; that the area of the base is found by multiplying the square of the number of units (inches) in the radius by 22/7; and that the radius is 1/2 the diameter, etc.

This third step is the true reasoning step, and a pupil's success in reasoning in mathematics depends very largely upon three factors. In the first place he should visualize clearly the conditions of the problem; next he should use a definite method or plan in his reasoning; and finally, after the computation, he should judge the reasonableness of the answer. By considering these three factors in greater detail, we find ways of helping pupils learn to solve problems.

1. *Visualizing the conditions.* Take, for example, this problem: "Find the distance a boy can run in 10 seconds at the rate of 25 feet a second." If the pupil must go through a process of reasoning in order to think how to solve this problem, he should visualize the path of the running boy as a succession of 25-foot lengths (one such length covered in each of the 10 seconds) in order to understand clearly why the distance run is 10 times 25 feet. If this idea of the succession of 25-foot lengths is not vividly imaged upon reading the problem, the pupil should draw a diagram representing the path of the running boy in order to visualize clearly the relationship of the rate, time, and distance run.

2. *Planning the solution.* Suppose a pupil is given this problem: "A man bought 20 bushels of potatoes at $1.50 per bushel; 4 bushels spoiled; he sold the remainder at $2.00 a bushel. What margin of profit did he make?" The best method of attack for such a problem is as follows.

The pupil should first ask himself, "What am I trying to find?" (*The amount of margin.*) He should then think, "How can I find the margin?" (*Subtract the cost from the selling price.*) Not finding the cost and selling price stated in the problem, he

should then think, "How can I find the cost?" (*Multiply the number of bushels bought by the cost per bushel.*) These data being given in the problem, he may begin the solution and find the cost. He should then think, "How can I find the selling price?" (*Multiply the number of bushels sold by the price per bushel.*) The number of bushels sold not being in the problem, he should then think, "How can I find the number of bushels sold?" (*Number bought minus number spoiled.*) Having found the number sold, he may proceed with the solution as reasoned out. It will be seen that the pupil first reads the problem to see what is asked for, then thinks upon what that depends, and in turn upon what the next item depends, and so on until he has arrived at the known facts. In other words, he reasons through these relations from the end to the beginning, and then proceeds with his calculations from the beginning to the end. Pupils who have consciously in mind this method of analysis will reason more clearly and accurately than those who do not.

3. *Judging reasonableness of result.* It is not half so bad to make an error in computation as it is to accept without question an absurd result. For example, suppose a pupil is asked to find the interest on $654.70 for 60 days at 6 per cent, and hands in the answer $65.47. He has not used common sense judgment. He should think: The interest on a little over $600 for a year at 6 per cent is a little over $36; for two months it would be a little over one-sixth of this or a little over $6. By so doing he would have corrected his error and obtained $6.55 for the result. No pupil is well taught if he does not exercise this common sense judgment of his result.

d. The fourth step: computation. This final step cannot be performed efficiently unless the pupil not only knows how to multiply, how to square, how to divide, and the like, but has also acquired facility or "skill" in performing these operations.

3. *How to increase the more generalized values of mathematics.* *a.* Generalized values in mathematics. In recent years curriculum makers have insisted that the materials of instruction in required courses should be intrinsically valuable in modern life. Children should acquire those skills, develop those attitudes, and learn to think intelli-

gently about those problems that are essential to life today. Until recently, curriculum makers extolled the more generalized outcomes of teaching, particularly its disciplinary values. Teachers of mathematics have always believed that "well taught mathematics" resulted in developing in the pupil more than a particular skill, a given item of information, or the ability to carry on a certain kind of mathematical reasoning. They have claimed certain transfer or generalized outcomes. While the chief defense for the content of required courses of study in mathematics in junior high schools is, admittedly, their social worth, it does not follow that attention need not be directed to securing the maximum generalized values from these courses of study. We are, therefore, reviewing the present status of the doctrine of transfer, as it relates to the improvement of the teaching of mathematics.

b. The older points of view. The older doctrine of transfer stated that mental power or training gained in one subject would spread or transfer to any other subject. It made little difference in what connection one learned to reason, or to be self-possessed, or to stick to an unpleasant task. The powers thus developed would be applicable to any other situation and would operate in all lines of activity.

This view of transfer had an enormous influence on the teaching of mathematics. Its great prerogative was to develop the *"faculty" of reasoning*. Geometry, particularly, came to occupy a most enviable position among the school subjects. There was little demand that mathematics be practical, interesting, or easily learned. The disciplinary value was often believed to be inversely proportional to these qualities. Of course that view is now considered extravagant. No one who has followed the scientific studies in education can entertain it.

Immediately following the scientific studies of transfer

by Thorndike and Woodworth in 1901,[5] when it first became certain that the amount of transfer was markedly less than psychologists had formerly believed, there was an extreme reaction against the doctrine. Then we heard that all training is specific, and that transfer is limited to situations that are "identical" with those in connection with which the training was secured.

c. The present point of view. The majority of psychologists hold to neither of the extreme positions. Ninety per cent of the recognized authorities in psychology to-day would probably approve the following propositions:

1. In itself the transfer value of mathematics (or of any other subject) is insufficient to justify its being required of all pupils. (See Vevia Blair's study in the report of the National Committee, Chapter IX.)

2. The amount of transfer from mathematics depends upon the *method* of teaching the subject.

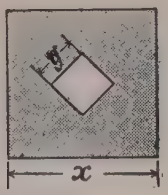
3. Meanings, methods of attack, and attitudes are more transferable than skills and information.

We may pass by the first proposition stated above. Social worth has been the first criticism with which we have tested any proposed subject matter for the grades under consideration. Our intention is to include only materials that are intrinsically worth while. Hence we do not or should not have to look to disciplinary values for the chief justification of any items. We do, however, desire to secure the maximum disciplinary values from our instruction. And we should be the last to deprecate these values.

The second proposition asserts that the amount of transfer depends upon method of instruction. Teachers have noted that pupils who have no difficulty whatever in finding products such as $(x + 8) \times (x - 8)$ or even

[5] *Psychological Review*, Vol. 8, 1901.

$(ax + by) \times (ax - by)$ are often utterly unable to make application of the principle to find the cost of 42 articles at 38 cents each, or to use it to find the shaded area in a figure like the one shown here. They have not learned to



generalize the principle and to connect it with a number of situations to which it is relevant. But generalizing, *i.e.* being able to use a fact, principle, or attitude, is the highest form of transfer. Skillful teachers make it their business to see that pupils do generalize their training. They may provide practice in making applications, realizing that the application or use under varying situations is just as important as learning the fact in hand.

Teaching that is "formal" transfers in a very limited way, if at all. Many teachers have presented algebra in a purely formal manner. For example, they have taught special products and factoring by the "case" or "type" method, saying to the pupil, in substance, "All of these are of Type I; use this rule." Pupils acquire skill in manipulation, but that skill is often useful only for further manipulation of the same kind. Little mental training, a minimum of generalization, is provided. Many teachers have heard the remark, "I could do these examples if I knew what rule to use." Stronger evidence of lack of transfer could not be obtained. Teaching is formal when it provides for no practice in classification, analysis, application, or generalization. Its transfer effects are reduced in the degree to which these are not provided.

In addition to emphasizing application and generaliza-

tion, we should lay particular stress upon the technique of problem solving. Pupils can be taught that in solving any problem it pays: (1) to be certain that they know what the problem is; (2) to try to recall some facts or principles that *might* help to solve it; (3) to test out any leads or hunches that they may think of. Another tendency that should be developed is: I want to find *a;* I could find *a* if I knew *b;* I should have *b* if I knew *c;* but I know *c;* so I have it.

Teachers of all problem-solving subjects will of course desire to emphasize disciplinary values of the various subjects. Mathematics probably lends itself best to this kind of emphasis: its materials are impersonal; they are not associated with bias, sentiment, or prejudice; they are susceptible of very careful gradation of difficulty.

The third proposition states that meanings, attitudes, and methods of problem attack are more transferable than skills and facts of information. This is of great significance to teachers of mathematics, for, in mathematics itself, meanings, attitudes, and methods of problem attack are rated in importance second only to simple computation.[6] Accordingly, those mathematical concepts whose meanings are broad, and hence applicable to numerous situations in and out of mathematics should be considered. First, however, let us recall some of these broad significant concepts outside of the field of mathematics. An instance of one of these is evolution. Originating in science it has been extended and used to clarify thinking in many fields. Another is the concept of growth. Transferred from biology, it has proved invaluable in our thinking about personal and social problems. The concept of "cause and effect" is another instance in point.

What are these great key concepts in mathematics? The

[6] *Cf.* B. H. Bode, *Fundamentals of Education* (The Macmillan Co., 1921), Ch. iv.

greatest is that which we call mathematical law. A mathematical law expresses the relationship between two (or more) variables. If the value of one of these variables is known, the value of the other can be computed. To have pupils think clearly in terms of relationships between variable quantities is the most fundamental disciplinary aim in the teaching of mathematics. This concept of dependence or functional relationship is to mathematics what evolution is to natural science. Other significant concepts which we should desire to emphasize are ratio, proportionality, similarity, equality, variation, and measurement.

We shall turn now to the outcomes of mathematics that are less intellectual than those we have just considered. Psychologists assure us that attitudes are quite as readily transferable as the more strictly intellectual products. An attitude is a feeling or an emotional set which predisposes one to react in a certain manner. We shall not attempt to distinguish between attitudes and ideals.

Bagley has called attention to the possibilities of securing transfer through the development of ideals. Teachers of mathematics wish their pupils to be accurate, to hand in neat papers, to develop an attitude of inquiry, to be persistent, to have a distaste for incomplete and slipshod work, and to get at the reasons for things. Whether these traits transfer or remain effective only in connection with the situations in which they were learned depends largely upon the method of developing them. If, on the one hand, a mathematics teacher demands neat papers in arithmetic, she will get neat papers in arithmetic. But there is no assurance that neatness will characterize the papers that are submitted to other teachers or to her in other subjects. On the other hand, if the mathematics teacher develops an ideal of neatness, an appreciation of the importance of neatness as a personal accomplishment, the pupil will prepare neat papers, not only in the mathe-

matics classroom, but in all subjects. The ideal of neatness will spread or transfer to other fields. Training in mathematics may well give a student ideals of exact methods of procedure in getting at truth, and these ideals can be generalized to any extent that one desires. It is needless to say, however, that mathematics can be taught without impressing such ideals, and it is equally easy to see that a high degree of mathematical proficiency does not necessarily mean that such ideals function.

The work of the supervisor. What can the principal or general supervisor do to bring about improvement of instruction? His first move is to plan a series of meetings, the sole aim of which is to awaken in his teachers a truly professional spirit and desire for improvement. Although few words are required to state that aim, well-organized information, keen insight, and an abundance of tact on the part of the supervisor are necessary for the successful accomplishment of the task. This statement implies difficulty for the supervisor, and it may as well be truthfully admitted that there is difficulty, but it is not insurmountable. The method of organizing the meetings and the content of the discussions at the meetings are the salient features to which the supervisor must give attention. His active part in the meetings is merely to start the ball rolling, and to do so with such impetus that it may keep going of its own momentum. He must, however, be ever on the alert to direct discreetly and facilitate the movement whenever and wherever the necessity arises. A teacher's interest in such an improvement campaign can be enlisted and sustained only if the teacher is actively and purposefully participating in the campaign. Hence, responsibility must be thrown upon the teacher for the whole improvement program. The very first meeting of the mathematics group, after the purposes of the campaign have been skillfully set forth by the supervisor, is not too early for the

election of a teacher committee to plan the work for the year. Let us now consider in what this work should consist.

1. The teachers should formulate the aims toward which they as a group are working and build up the course of study to attain those aims.

2. They should become thoroughly acquainted with current trends in the teaching of mathematics in regard to both content and method.

3. They should get in touch with the leading experimental movements in the field and make provision for the carrying on of some phase of experimentation within their own school.

4. They should decide upon the importance of topics taught in the various subjects of mathematics and the number of hours which can most profitably be allotted to the study of each topic.

5. They should formulate a rating card for scoring textbooks in each subject in mathematics and have reports given regularly by a textbook committee on all current textbook publications.

6. Each year the findings of the textbook committee should result in the choice of a new textbook to be used by at least one group of pupils in the school. The comparison of progress made by pupils using various texts should be a subject of frequent discussion at the meetings.

7. The modern testing movement should be discussed at the meetings and the method of conducting it in the school decided upon. Prognostic tests should be given at the beginning of the year. Diagnostic tests should be chosen and a well-organized plan for remedial treatment to be used should be laid out. Such a remedial program should include a listing of all the difficulties which the diagnostic tests show to be outstanding and a scientific procedure planned to find out the very best ways of helping the

pupils with those difficulties. A committee should be elected to evaluate methods used by different teachers within the school in handling particular topics. It should be the duty of this committee to provide teachers with an opportunity to visit classes within the department, so that good teaching may make its maximum contribution to the school by helping not only the pupils in the particular class, but the teaching staff also. We all are too prone to hunt far and wide for the methods upon which we stamp our approval, when in reality the very best of methods are often to be found within our own school walls, if we but look for them.

Friendly rivalry should spur the teachers to endeavor to have the pupils under their tuition make a good showing in the standard measurement tests given at the end of each semester. An analysis of the results of the tests should be given and an investigation made to determine the causes of outstanding defects. Suggestions for ways and means of removing these causes, evaluation of methods used by various teachers on the basis of test results, and criticisms of the testing program that are prompted by the test results are all subjects which must be discussed by the teachers, if progress in their teaching is to be made.

8. The teachers should be thoroughly acquainted with the periodicals which are published in their field and the outstanding features in the current issues of these periodicals should be briefly reviewed by some member of the staff at each meeting. There are two magazines which contain valuable material for the teacher of mathematics. They are *The Mathematics Teacher* and *School Science and Mathematics*. If it is impossible to secure both of these magazines the former is perhaps to be preferred, because its pages are devoted exclusively to the study of the practical pedagogical problems being met daily by the teacher of mathematics. If time permits, articles with a bearing on

mathematics from other less specialized educational magazines should also be reviewed and discussed.

9. Effort should be made to see that a representative of the school is present at all professional meetings at which the leaders in the field of teaching of mathematics present their views on the controversial phases of the subjects. Such representatives should be required to report at one of the regular departmental meetings the ideas, trends, impressions, and information which were emphasized by the leaders.

We have outlined an extensive program to be carried on in connection with the weekly, bi-weekly, or monthly meetings of the mathematics teaching staff. We know from experience that if such a program is well organized, if the burden of work is well distributed, if every teacher is made to feel that she has an important rôle in the adventure and that without her coöperation success cannot be hoped for, interest in the development of proper professional spirit is assured, and with this comes the improvement of instruction we are so earnestly seeking.

Furthermore, the supervisor should find out his teachers' merits as well as their demerits. It is his duty to let the teachers know that he is cognizant of their merits as well as their demerits. It is so easy to attach to the word "criticise" the adverse meaning only, and it is the tendency to do this very thing on the part of the supervisor that gains for him the ill will and lack of coöperation of his teachers. Let him make it his policy to mention one good point for every bad point noted in the observation of a teacher's work. When he adds to this policy, his best efforts for constructive rather than destructive criticism, hopes of his success, the teacher's success, mathematics success, and education's success in his school are given great likelihood of fulfillment.

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CHAPTER IV

THE SUPERVISION OF LATIN

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The new program for Latin. Only upon the basis of a rational conception of the purposes for which Latin is studied and taught can there be erected a sound program of content and procedures. The *why* should therefore anticipate the *what* and the *how*. Owing to recent investigations of Latin in secondary schools, the present-day emphasis upon clearly defined, valid objectives is peculiarly significant for the supervisor of Latin.

This recent canvass of the objectives and results of the teaching of Latin has been reported by the American Classical League.[1] The report, though based mainly upon comprehensive data obtained by experiment and testing, sets forth the consensus of teachers of Latin. This combination of experimental data and empirical information has made possible a report the conclusions of which have been arrived at through both objective data and the results of broad experience. The views expressed in the present chapter follow, in the main, those set forth in that report.

Two fundamental points emphasized in the Classical League report are of critical importance in determining the function of Latin in secondary schools. First, it was shown that of every one hundred pupils beginning the study of Latin in high school fewer than five will study it in col-

[1] *The Classical Investigation*, Part I (Princeton University Press, 1924).

lege.[2] The vast majority of pupils studying Latin in secondary schools must, therefore, secure their educational returns from it during the secondary period, if at all. In fact two-thirds must secure them during the first two years. Second, the report accepts the practically unanimous verdict of psychologists that the potential educational values which constitute the justification for the study of Latin are not automatically realized to any considerable degree by the average pupil.[3] It follows that the educational values which constitute the justification for the study of Latin by the great majority of Latin pupils are likely to be realized only provided they become objectives consciously aimed at through the use of appropriate content and methods.

The relationship of these conditions to the construction of an ideal curriculum in Latin appropriate for the 95 per cent of pupils as well as for the 5 per cent has long been recognized by teachers of Latin. But their attempts thus to reorganize this curriculum have been frustrated by the direct or indirect influence of quantitative college entrance requirements. From this source has sprung an essentially noneducational objective as the dominating motive of Latin study.

The situation has now happily been changed. The College Entrance Examination Board approved, in 1926, those recommendations of the Classical Report that aimed to relieve the present congestion of the secondary course; to place the emphasis upon quality rather than upon quantity, by the elimination of prescriptions as to *amount;* and to encourage a wider choice of reading material from classical authors, by the elimination of the prescriptions as to *kind* in one semester of each of the last three years of the

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[2] *Ibid.*, p. 31.

[3] *Ibid.*, pp. 55-58; 175-177; 211-212.

four-year course.[4] This gratifying action clears the way for the rapid evolution of a national policy of Latin for the sake of pupils. The future of Latin now lies in the hands of the secondary teachers of Latin.

The objectives of Latin study and teaching. 1. *Differentiation among objectives.* Upon the attainment of valid educational objectives, then, rests the ultimate justification for the presence of Latin in secondary schools. In the reappraisement of all subjects which is taking place, the final verdict as to the value of Latin will depend clearly upon the extent to which it contributes to the major objectives of all education. As stated in Chapter I, there are in general two methods of determining the potential contributions of a subject. One may set up the major objectives of education and then analyze the subject in question to discover its contributions to these aims; or, one may analyze the potential educational values in terms of the subject itself. Although these major objectives are, in so far as they are commonly accepted, altogether too vague and general to provide a basis for practical procedure, familiarity with them is an indispensable element in the equipment of the supervisor.[5] The Latin supervisor should analyze the potential values of the subject and, on the basis of all available data, submit the content selected and the methods used to a rigorous appraisement and continuous reappraisements to determine what content and method provide the best conditions for the attainment of the values set up.

The justification of the study of Latin for any considerable number of secondary pupils lies indisputably in its "transfer" values. The direct values of the study of Latin

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[4] "Document 120," December 1, 1926, pp. 30-31 (College Entrance Examination Board, New York, 1925).

[5] "Report of the Sub-Committee on Latin," *The North Central Association Quarterly*, Vol. 1, March, 1927, pp. 55-76.

for the purpose of reading literature in Latin are valid for only a very low percentage of the pupils studying it.[6] "Transfer" is here used in its broadest sense to denote all the potential indirect values of the subject—disciplinary, cultural, instrumental, or, getting and keeping oneself mentally fit—values that involve application to fields other than Latin of the knowledges, skills, abilities, habits, attitudes, and ideals to the development of which the study of Latin may contribute. By "direct" values is meant the contemporary or subsequent reading of Latin as a language in spare time for pleasure, or for use in professional activities.

But the attainment of indirect values by the many, no less than the attainment of the direct values by the selected few, depends upon progressive mastery of Latin itself. This is what the study of Latin means. The desirable knowledges, skills, abilities, habits, attitudes, and ideals of no object can be generalized and applied elsewhere unless they are actually developed in the work of the specific course in question. There is thus no conflict between the interests of these two groups of pupils. The Classical Report gives major attention to an analysis of the causes for the present unsatisfactory development of the ability to read and comprehend Latin, and proposes extensive modifications in the traditional course to correct this condition. This it does, not because of any misapprehension as to the proportion of pupils who will in later life have occasion to read new Latin, but because the mastery of Latin itself is indispensable to every pupil who wishes to attain the major educational values of the study of Latin.[7] "The development of these immediate and ultimate objectives should be continuous, concurrent, and interdependent."[8]

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[6] *The Classical Investigation*, pp. 37-40.
[7] *Ibid.*, Part I, pp. 83-84.
[8] *Ibid.*, Part I, p. 182.

The recognition by Latin teachers of the fact that the study of Latin can be justified for any considerable number of pupils only on the basis of its transfer values, carries with it the complementary realization that educators must ultimately determine whether these indirect values can be more economically secured with Latin or without Latin. This issue can apparently be decided only on the basis of a comprehensive program of controlled experiments extending over a considerable number of years and embracing not only those more tangible phases of Latin which are at present susceptible to reasonably exact measurement, but also the more intangible products for the measurement of which no means have as yet been devised, and which may always have to be evaluated on the basis of subjective opinion. Pending such an investigation, *a priori* assertions on either side are unjustified. Certain opponents of Latin have, however, been prone to select *one* of the values claimed for it and disingenuously assume that this is its only educational result. They maintained that, if the time spent on Latin were spent upon a more direct procedure, larger returns could be secured.[9] This, of course, ignores the essential element in the problem, which lies in the potentially cumulative character of Latin. Obviously the total overhead cannot be successively charged to each value but must instead be distributed proportionately.[10] The manifold contacts of Latin with the processes of keeping intellectually fit justify the conviction that it is potentially a most effective instrument for education on the intellectual side in the secondary curriculum. Furthermore, such experiments as were included in the Classical Investigation touching upon the problem of economy demonstrate that some, at least, of the indirect values of

[9] *The School Review*, Vol. 33, February, 1925, p. 86.

[10] *Cf.* A. G. Keller, "The Case of Latin," *Yale Review*, Vol. 6, October, 1916, pp. 134-149.

Latin were more economically secured when associated with the study of Latin than when attacked directly.[11]

For the majority of pupils, then, the mastery of Latin is only an immediate objective, while the educational values of the subject constitute its ultimate and permanent objectives.[12] The task of the supervisor is to set up the objectives comprised in these two groups in as explicit a form as possible and then to analyze each into the specific outcomes desired. The importance of such detailed analyses can hardly be overestimated, if the attention of teachers and pupils is actually to be focused upon anything at all.[13] Such analyses will often disclose the content or method needed to secure the outcomes listed. Limitations of space

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[11] E. L. Thorndike, "The Influence of First-Year Latin upon Ability to Read English," *School and Society*, Vol. 18, February, 1923, pp. 165-168. Also see R. I. Haskell, *A Statistical Study of the Comparative Results Produced by Teaching Derivation in the Ninth-Grade Latin Classroom and in the Ninth-Grade English Classroom to Non-Latin Students* (A doctor's dissertation at the University of Pennsylvania), pp. 82-85.

[12] "In discussing the objectives of the study of Latin it is necessary at the outset to emphasize the important distinction between ultimate and immediate objectives. By ultimate objectives are meant those which involve educational values upon which the justification of Latin as an instrument in secondary education must depend; namely, those abilities, knowledges, attitudes, and habits which continue to function after the school study of Latin has ceased; for example, the ability to determine the meaning of an unfamiliar English word derived from Latin, the habit of sustained attention, or an appreciation of the influence of Roman civilization on the course of western civilization. By immediate objectives are meant those indispensable aims in which progressive achievement is necessary to ensure the attainment of the ultimate objectives, but which may cease to function after the school study of Latin has ceased; for example, the ability to conjugate a Latin verb or to translate a passage from Cæsar." *The Classical Investigation*, Part I, p. 32.

[13] Franklin Bobbitt, *How to Make a Curriculum* (Houghton Mifflin Co., 1924), pp. 32-33; and T. H. Briggs, "Curriculum Reconstruction in the High School," *School Review*, Vol. 31, February, 1923, pp. 109-115.

make it practicable to include here suggestive detailed analyses of but two objectives.

The basic immediate objectives may be listed as follows:[14]

Primary: Progressive development of power to read and comprehend Latin.

Secondary: Progressive mastery of syntax
Progressive mastery of inflections
Progressive mastery of vocabulary

A fluent and reasonably accurate pronunciation of Latin is one of the specific outcomes necessary for the development of the power to read Latin orally, which in turn, is a necessary first step in learning to read and understand Latin. Translation from English into Latin is regarded as a method, not as an objective in itself. The distinction between the primary and secondary immediate objectives is a vital one. Much of the congestion apparent in the work of the first year can be eliminated, if the mastery of the elements, especially syntax and inflections, is rigorously treated as means by which reading power is secured and not as an end in itself. There is no point at which the dynamic function of objectives in determining content and method is more clearly apparent than here. Many forms and syntactical principles, a knowledge of which contributes but slightly, if at all, to the ability to read, comprehend, or translate Latin have been included in the traditional first-year course. Time for drill has been spread evenly over a huge mass of forms and principles in the vain effort to bring all of them to the same level of mastery, when, had the attempt been successful, the pupil would merely have been provided with useless luggage to carry.

The relative importance of a knowledge of the three elements in developing the ability to read Latin apparently varies greatly. Unfortunately, the Classical Investigation

[14] *The Classical Investigation*, pp. 32, 79.

was unable to include a sufficient number of studies to determine finally the relation of these special activities to the main business of ability to read Latin. Such studies as were made are, however, highly significant.[15] They show, for example, that the element contributing most directly to the ability to read Latin is vocabulary. In other words, there is a high positive correlation between knowledge of vocabulary and ability to comprehend Latin. For syntax, on the contrary, a significant negative result of the studies in correlation is that *formal* knowledge of this element has little, if any, relation to the ability to comprehend Latin. It thus appears that the large measure of time devoted to formal syntax, the results of which even from the point of view of syntax itself were exceedingly poor,[16] represents misdirected energy. For there were some pupils who secured high grades in the test of formal syntax, but these grades furnished no basis of prophecy as to the grades secured by these same pupils in the test of comprehension! The data are insufficient to justify final conclusions. Many teachers will, however, find in them a confirmation of the feeling of futility which pupils and teachers experience in the face of a steady grind on formal syntax.

It is not intended to suggest that a thorough knowledge of syntax is not necessary. It is, however, *functional* knowledge that should be stressed, knowledge which assists the pupil to grasp the thought of a Latin sentence as he reads.

Similarly, the determination of just what our objective is in our training the pupil how to attack the Latin sentence will have a very intimate relation both to the content employed and to the methods used. Are we aim-

[15] *Ibid.*, pp. 92-93, and L. J. Brueckner, "The Status of Certain Basic Latin Skills," *Journal of Educational Research*, Vol. 9, May, 1924, pp. 400-401.

[16] *The Classical Investigation*, pp. 92, 137-138. For the analogous results of the tests on forms, see p. 142.

ing to develop the pupil's power to comprehend Latin in the Latin order and then to test that comprehension in various ways including translation? Or is our aim to develop the power of the pupil to analyze the various parts of the sentence from the point of view of English, arrange them in English order, and get the thought through translation? Since the Report of the Committee of Ten in 1894 we have been officially committed in this country to the theory that pupils should be trained to apprehend the thought of a Latin sentence in the Latin order and, after grasping the thought, to translate it into English.[17] This theory is embodied in the recommendations regarding methods included in the requirements of the College Entrance Examination Board,[18] in the catalogues of colleges, in the New York State Syllabus in Ancient Languages, and elsewhere. Furthermore, if the study of Latin is to be a genuine speech experience, enabling the pupil to share the experience of those who wrote and spoke Latin, with the enlargement of the intellectual and emotional horizon which such an experience connotes, comprehension in the Latin order appears to supply the indispensable condition. If the study of Latin is to provide the pupil with some appreciation of the genius of Roman

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[17] *Ibid.*, pp. 93-94; 189-190; 288-291. For the literature on the subject see the notes on pp. 94 and 288 of *The Classical Investigation.* The following recent articles discuss both sides of the question:

Clarence P. Bill, "Reading the Classics," *Classical Journal*, Vol. 22, November, 1926, pp. 88-96; "Reading the Classics," II, *Classical Journal*, Vol. 23, April, 1928, pp. 489-499.

W. L. Carr, "Shall We Teach Our Pupils to Read Latin?" *Classical Journal*, Vol. 23, April, 1928, pp. 500-510.

Dorrance S. White, "What Price Method?" *Classical Journal*, Vol. 23, April, 1928, pp. 511-519.

B. L. D'Ooge, "A Reorganization of the Latin Curriculum in Secondary Schools," *Classical Journal*, Vol. 23, June, 1928, pp. 683-692.

[18] "Suggestions Concerning Preparation," Document 101, August 1, 1921 (College Entrance Examination Board), p. 27.

civilization, we should see to it that pupils are brought into direct contact with that genius in one of its most perfect embodiments, the Latin sentence.[19]

If translation is not to be a mere interchange of verbal symbols, but, as Inglis maintains,[20] a peculiarly valuable instrument for developing the complementary powers of thinking and of expressing thought, it should involve the expression in adequate English of a thought already comprehended through Latin. It thus appears that the Latin-word-order method provides the most favorable conditions both for real mastery of Latin and for the realization of its educational values. Nevertheless the analytical method of recasting the Latin sentence to conform with the genius of English, and of looking first for the subject and translating that, then the verb and translating that, then the object, and then bringing in the rest of the sentence has in one or more of its many modifications been in practice the method commonly, although often unconsciously, followed.[21] The reason for this contradiction between theory and practice the Classical Report finds in the pressure to cover ground, which has from the very beginning of the work encouraged the tendency to follow the line of least resistance and remodel the Latin sentence to conform with the genius of English. The removal of this pressure, as a result of the general tendency throughout the country to consider power more important than speed and, as a result of the recent action of the College Entrance Examination Board noted above, now makes it possible to harmonize theory and practice.

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[19] *The Classical Investigation*, p. 63 and note (No. 60).

[20] *Ibid.*, pp. 45-47. See also A. J. Inglis, *Principles of Secondary Education*, pp. 429-437, 462-474. Inglis apparently regards this as potentially the most valuable product of the study of Latin. The reference should be studied carefully. The same idea is developed in John Dewey's *How We Think*, pp. 170-187.

[21] *The Classical Investigation*, pp. 95-96, 126-127.

If the Latin-word-order method recommended by the report is accepted, corresponding revisions of our conception of the function of translation are inevitable, and the precise classroom activities necessary will appear in our list of specific outcomes. Translation can on this basis be regarded neither as a crude means of getting the thought nor as the sole means of testing comprehension, but as an exercise in English expression and as *one* of several means of testing comprehension. If our objective is really to attain comprehension, we shall discover other means of testing it, and thus secure for practice in translation the time necessary to raise the standard of English used sufficiently to justify the claim that this activity actually contributes to the pupil's ability to express himself in English.[22] The issue lies in a clear-cut definition of the objective in terms of detailed outcomes.

2. *How the supervisor can aid in the attainment of immediate objectives.* The following outline of some of the detailed knowledges, skills, abilities, habits, attitudes, and ideals, expressed in the form of specific outcomes involved in the study of inflections is presented, not with any suggestion of finality or completeness, but for the purpose of suggesting the practical importance of such analyses in general. It is hoped that the reader will promptly set about the task of constructing a better outline expressing his own ideas. This method of approach to problems of content and method promises to occupy a prominent place in the future pedagogy of Latin and of all secondary subjects.

Definition of Objective: The development of progressive ability to recognize *instantaneously* when reading Latin the forms of inflected words, as they are met, including all possibilities, and to apprehend the function of each of the possible forms.

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[22] *The Classical Investigation,* pp. 45-48; 201-204.

Some of the specific knowledges, skills, abilities, habits, attitudes, and ideals which the pupil is to develop are as follows:

1. A knowledge of the inflectional forms of most frequent occurrence in reading.

2. The attitude that the ending of a word should call up the form or possible forms of the word *directly,* and not through the conscious or unconscious recalling of its position or positions in a paradigm.

3. The knowledge that, in contrast to English, the important part of a Latin word indicating its function in the sentence is its ending.

4. The habit, when reading Latin, of focusing the attention upon the endings of words as furnishing the clue to the continuation of the story.

5. The attitude on the part of the pupil that he is learning forms in order to recognize them when reading Latin and thereby *get the thought of the sentence.*

6. The ability, secured through drill on selected forms, to recognize instantaneously those of most frequent occurrence.

7. The ability, secured through drill on selected words, to recognize instantaneously those forms of frequent occurrence having the largest number of possibilities, and therefore intrinsically most difficult; *e.g.* in the declensions, forms ending in *-ae, -i, -a, -um, -e,* etc.

8. The ability, secured through drill on selected and juxtaposed forms, to distinguish instantaneously between forms likely to be confused because of their similarity; *e.g.* forms in *-u,* and *-ā, -is* and *-īs.*

9. The ability, secured through drill on selected and juxtaposed forms, to distinguish between different forms with the same ending; *e.g. amici, nobili, veni, ibi, illi.*

10. The habit of distinguishing between words which differ only in the length of the vowel by the difference in the sounds; *e.g. hic* and *hīc, omnis* and *omnīs, rēgī* and *regī, ducī* and *dūcī.*

11. A knowledge of paradigms, to be thoroughly mastered when there is no danger of setting up the habit, contrary to that required for reading, of recognizing forms only by their position in the paradigm.

12. The habit, in reciting or writing formal declensions, of putting together cases that are alike, in order that this exercise

may contribute as directly as possible to the ability instantaneously to recognize all the possibilities of a given form as it is met in a sentence; *e.g.* the dative and ablative plural of all declensions should not be separated in the declension but given together.

13. The attitude toward the learning of paradigms that they are convenient devices for assisting him to hold in mind the increasing number of forms.

14. A knowledge that a considerable number of Latin inflectional forms are in use in English.

15. The attitude of expecting, in learning Latin inflections, to find and use Latin forms occurring in English.

16. A knowledge of Latin nominative singular and plural nouns occurring in English; *e.g. alumnae, radii, termini, memoranda, data.*

17. The habit, in learning the Latin third declension, of noting the English derivative preserving the stem; *e.g. milit-ary, custod-y, itiner-ary,* etc.

18. The habit of using English derivatives from the last principal part of a Latin verb to assist in determining to what conjugation it belongs.

19. The habit, when learning the principal parts of Latin verbs, of associating an English derivative with the last principal part.

20. A knowledge of some of the more obvious cognate forms of Latin and English inflections; *e.g.* him and terra*m,* a*m* and su*m,* boy'*s* and reg*is.*

21. The knowledge that each new inflection has forms identical with those in some inflection previously learned.

22. The attitude toward a new inflection that it should first be reduced to its lowest terms by noting what forms are alike and what forms are already familiar.

23. The ability to recognize certain forms in a new inflection as already familiar.

24. The ability to select from a new inflection the forms upon which attention should be focused; *e.g.* the genitive plural of the third declension.

25. The habit of attacking a new inflection independently on the basis of the procedure just described; *i.e.* using to the utmost all apperceptive material existing in English and Latin.

26. A knowledge of the common elements running through different inflections, in so far as this will contribute to the ability

to recognize forms; *e.g.* the ending of the accusative singular, and in particular the organization of the verb; stem, tense sign, personal ending, and the elements common to all four conjugations.

27. The attitude toward a new form met in reading that it can be solved by comparison with forms previously learned or through the demands of the story.

28. The ideal that the forms selected for mastery be acquired with a 100 per cent thoroughness.

29. The ideal that every possible resource is to be used to solve a form independently before it is looked up.

The functional aspect of inflections naturally passes over into the field of syntax and cannot be discussed here in detail. The following illustrations will indicate some of the specific aims which appear to be dictated by an acceptance of the objective as defined above.

1. The attitude that in reading Latin the object is to try to *get the thought* of a sentence through forms and the ideas expressed by them.

2. The attitude that with the recognition of form should be immediately associated the function of the form, including all possibilities actually conceivable.

3. The habit of mentally eliminating all possibilities of form not consistent with the meaning of the word, with the story up to that point, or with demands of preceding forms.

4. The habit of holding in suspense all forms actually possible until something later in the sentence indicates which it is.

5. The habit of associating form with function through practice in simple oral Latin.

6. The ability to recognize the thought-groups of a sentence as indicated by the forms of words.

7. The habit of associating form with function through constant classroom practice in careful oral reading of Latin in thought-groups, and in making these thought-groups stand out clearly and distinctly.

8. The habit of associating form and function encouraged by significant questions on syntax in terms of thought-relations, asked before translation, especially when the oral reading has disclosed a misunderstanding of the thought-groups.

9. The attitude that the reading of a Latin sentence or paragraph aloud is not an exercise in pronunciation but a means of recognizing thought-groups and of making clear that the thought-groups indicated by the forms have been recognized. (The practice of subjecting the oral reading of Latin to detailed criticisms on pronunciation not only fails to focus the attention of the pupil upon the only valid purpose of such reading, but is certain to develop the conviction that the oral reading of Latin is a purely formal and mechanical exercise.)

10. The habit in home study of reading the Latin first in the effort to recognize the thought-groups indicated by the forms and thus to comprehend some, if not all, of the thought of the sentence.

11. The habit, even in drill on forms apart from sentences, of keeping in mind the function of forms, not by formal English equivalents (*e.g. militi*, to a soldier), nor by technical terms (*e.g.*, dative singular) which often fail to express any real functional meaning, but through definitions in terms of thought-relations.

These suggested activities are all associated with the immediate objective of mastering inflections as a tool for the comprehension of thought. The validity of this objective will not be questioned. The determination of the educational values to be sought in these activities will need to await the formulation of a general conception as to the valid ultimate objectives of Latin discussed in the following section. Some of the possibilities may, however, be noted here.

It should be observed that the study of inflections probably affords fewer opportunities for the development of general educational values than any of the other activities involved in the study of Latin. Yet a substantial number of the activities listed above require but a slight additional step to make them generally valuable in this respect. The close association with English suggested as one of the natural apperceptive bases for learning Latin inflections leads easily to such instrumental objectives as a better understanding of English words derived from Latin; the ability

to understand and use Latin inflectional forms occurring in English; the ability to spell English words derived from Latin (especially those containing obscure medial vowels, or ending in *-ant, -ent,* in *-scion, -tion,* or in *-ble*). On the disciplinary side it will be agreed that one of the most valuable mental abilities which a pupil can acquire is the ability to see relations, to see identical elements in two or more different situations. This has been called the highest ability of the human mind. The emphasis upon the discovery and use of relationships both with English and with Latin in the learning of Latin inflections, which is very conspicuously present in the specific suggestions above, suggests that the study of Latin inflections provides a peculiarly valuable medium for the development of the generalized habit of seeing relations, and of recognizing identical elements. Other disciplinary values such as ideals of thoroughness, persistence, etc., are also potentially present, and the initial basis, the training field, is sufficiently tangible and limited as to be susceptible of actual mastery. The correlation of Latin and English in a form more intimate than that involved in vocabulary relations, and the noting of cognate forms, etc., provides a basis for the development of a real appreciation of language structure, general language concepts, the inter-relations and, to some degree, the historical relations of language. These cultural products are of real worth.

Whether or not teachers of Latin accept these educational values of the study of inflections as worth striving for, one important inference relating to the general problem of economy in transfer values should be noted. It has been urged by adherents of the traditional school that to attempt to develop consciously the educational values of Latin would so curtail the time available for Latin itself as to wreck the course. Waiving the question of the legitimacy of this argument, even if true, and waiving also the

question as to the dynamic effect upon the learning of Latin of the presence of interesting and attainable aims,[23] we may note that the expenditure of time required to transmute activities necessary for Latin into general educational values is but a small fraction of that required for the original activities. The transmutation cannot be expected to occur automatically, it is true. But, if the teacher has these objectives definitely in mind, and brings them systematically to the attention of the class through appropriate carry-over, generalizing or idealizing questions, the additional load, which carries with it the permanent profits, is but a slight addition to the original overhead.

3. *How the supervisor can aid in the attainment of ultimate objectives.* Two critical problems confront the supervisor in the effort so to organize the course as to insure the maximum educational returns from the study of Latin. The educational values to be sought must be definitely set up and the course must be organized in harmony with the practical implications of the present-day theory of transfer.

It cannot be too strongly urged that the ultimate objectives to be sought should be formulated independently in every school system. Otherwise the dynamic effect of the process of making such an analysis will be lost. Furthermore, a nation-wide agreement as to the specific educational values of Latin is neither possible nor desirable. There will be wide and legitimate differences of emphasis resulting from differences in communities, from differences in educational backgrounds and prospects, and from differing interests of pupils and teachers. No list of ultimate values, from no matter how authoritative a source, can relieve supervisory officials and teachers of the obligation to build

[23] *Ibid.*, pp. 44, 84 (note). In other words, consciousness on the part of the pupil that specific results are being derived from the study of Latin furnishes a powerful motivation.

up their own set of specific educational objectives developed from their own experience, reflecting their own environment, and subjected to continuous and progressive readjustment. From the nature of the case neither uniformity nor permanency can be secured. It is clear, however, that in any particular system it is desirable that pupils make steady progress toward common goals expressed in terms of explicit objectives.

In the selection of these ultimate values there are certain criteria which appear to be unquestionably valid. They may be most conveniently stated in the form of questions to which each objective should be subjected.[24]

For what proportion of Latin pupils is this objective of value, if attained?

To what extent are there elements common to the study of Latin and to the more general field or fields of life activities with which this objective is concerned?

To what extent is this objective attainable through the study of Latin; *i.e.* without the expenditure of an excessive amount of time?

For the purposes of the present discussion we shall take the list of ultimate objectives recommended in the Classical Report as generally valid on the basis of the evidence adduced.[25] Since they also represent the consensus of large numbers of teachers in all parts of the country, most of them would probably appear in some form or other in any independent list. This list[26] in a very summary form is as follows:

Instrumental and Application Objectives:

1. Increased ability to understand Latin words, phrases, abbreviations, and quotations occurring in English.

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[24] *Ibid.*, p. 37.

[25] *Ibid.*, pp. 78-79.

[26] "Certain of the objectives are in the nature of the case valid only in the later years of the course. It is evident that the relative emphasis to be placed on the different objectives will vary in successive years of the school course."—*Ibid.*, pp. 77-78.

2. Increased ability to understand the exact meaning of English words derived directly or indirectly from Latin, and increased accuracy in their use.

3. Increased ability to read English with correct understanding.

4. Increased ability to speak and write correct and effective English through training in adequate translation.

5. Increased ability to spell English words of Latin derivation.

6. Increased knowledge of the principles of English grammar, and a consequently increased ability to speak and write English grammatically correct.

7. Increased ability to learn the technical and semi-technical terms of Latin origin employed in other school studies and in professions and vocations.

8. Increased ability to learn other foreign languages.

Disciplinary Objectives:

1. The development of certain desirable habits and ideals which are subject to spread, such as habits of sustained attention, orderly procedure, overcoming obstacles, perseverance; ideals of achievement, accuracy, and thoroughness; and the cultivation of certain general attitudes, such as dissatisfaction with failure or with partial success.

2. The development of the habit of discovering identical elements in different situations and experiences, and of making true generalizations.

3. The development of correct habits of reflective thinking applicable to the mastery of other subjects of study and to the solution of analogous problems in daily life.

Cultural Objectives:

1. The development of an historical perspective and of a general cultural background through an increased knowledge of facts relating to the life, history, institutions, mythology, and religion of the Romans; an increased appreciation of the influence of their civilization on the course of western civilization; and a broader understanding of social and political problems of to-day.

2. Increased ability to understand and appreciate references and allusions to the mythology, traditions, and history of the Greeks and Romans.

3. The development of right attitudes toward social situations.

4. Development of an appreciation of the literary qualities

of Latin authors read, and development of a capacity for such appreciation in the literatures of other languages.

5. A greater appreciation of the elements of literary technique employed in prose and verse.

6. Improvement in the literary quality of the pupil's written English.

7. An elementary knowledge of the general principles of language structure.[27]

But even these explicit statements do not furnish an indication of precisely what specific outcomes are desired and hence cannot furnish a guide to the selection of content and method. They should be analyzed into the specific knowledges, abilities, habits, etc., desired on the same principle employed in discussing the immediate objective. One such detailed analysis is given here to illustrate what seems to be ultimately necessary for each general objective set up.

4. *Illustrative analysis of a specific objective.* Some of the knowledges, skills, abilities, habits, attitudes, and ideals required for the attainment of increased knowledge of the principles of English grammar and a consequently increased ability to speak and write English which is grammatically correct are the following:

1. The realization that *all grammatical ideas* studied in Latin occur in English and that identical *methods of expressing* a large proportion of these ideas are found in Latin and English, this realization to be secured:

(*a*) in the case of most of the *elementary* principles by the use of principles already consciously familiar in English.

(*b*) in the development of most other principles by the use of English illustrations of the same principle, serving to indicate to the pupil that he has already been unconsciously familiar with the principles and by the very act of making such an identification aiding materially in strengthening his grasp of the principle.

[27] *Ibid.*, pp. 33-35.

2. An understanding of the historical reason for the similarities in the methods of expressing ideas found in Latin and English.

3. A knowledge of the grammatical principles studied in Latin which are potentially most important in the correction of errors in English speech.

4. A knowledge of what grammatical principles are most frequently involved in errors of English speech; *e.g.* the principles of agreement, case uses as applied to pronouns (especially whom), parts of speech of certain troublesome words, etc.

5. The attitude of expecting to secure help from grammatical knowledge gained in Latin in speaking and writing English grammatically correct.

6. The ability to apply grammatical principles learned in Latin to the correct choice of English forms secured by supplementing the preceding exercises with explicit identification of the principles applying.

7. The habit of applying principles learned in Latin to the improvement of English by the encouragement of the practice in writing and speaking of recalling principles learned in Latin when in doubt as to the correct form in particular cases.

8. The habit of applying principles learned in Latin to the improvement of English by the encouragement of the practice of noting mentally violations of these principles in the speech and writing of others.

9. The ideal of correct English speech.

The close internal connection between immediate and ultimate objectives and the economy resulting therefrom, noted in the discussion of inflections, is likewise very conspicuous in the above outline. A large proportion of the activities listed provide sound apperceptive bases for studying syntax from the point of view of Latin itself. The remaining purely application activities listed are potentially just as effective in fixing grammatical principles in Latin as the same amount of time spent in exclusively Latin drill. For the principles important for application purposes are without exception to be found among those indispensable for the reading of Latin. These activities

also provide conditions favorable for the development of the generalized habit of seeing relations, a service which the study of Latin appears uniquely adapted to perform, and for the further development of the cultural objectives mentioned in the discussion of inflections. From such activities may come other less tangible but worthwhile results, such as heightened appreciation of one's own language and increased sensitiveness to linguistic matters.

These illustrations of analyses of specific outcomes and activities deal with two of the simpler problems. Analyses of other objectives should be made, no matter in how tentative a form, and continuously revised in the light of experience.

5. *The psychology of the attainment of objectives.* The conditions set up by the present-day theory of transfer with which the teaching of Latin must conform, if it is to lay claim to transfer values, have already been suggested by implication in the foregoing analyses of objectives. There is practically unanimous agreement among psychologists that transfer or spread is not "automatic" to any considerable degree. It cannot, therefore, be assumed that pupils are securing automatically the ability to apply to English the facts of vocabulary or grammar acquired in Latin, or that desirable habits acquired in the study of Latin will automatically spread to fields outside of Latin. For the majority of pupils they remain restricted in their applications to the original training field unless their wider applications are also taught. The habit of holding the judgment in suspense, which is the most characteristic mental process demanded by the act of comprehending the Latin sentence in the Latin order, cannot, on this basis, be expected to develop the general attitude of "suspended conclusion," which Dewey has called "the most important factor in the training of good mental habits," unless conditions are deliberately provided favorable to that develop-

ment.[28] The average pupil cannot be expected to see and appreciate independently the valuable cultural implications with reference to general language contained in the details of Latin syntax.

On the other hand, it is generally agreed that, when a particular fact, process, habit, or attitude, acquired in Latin, has been generalized through repeated conscious application to fields other than Latin and the pupil has grasped the central idea, the application tends to become automatic. This is "mastery," and a permanent "adaptation" has taken place.[29] "To use a homely figure, we believe that the ordinary pump has to be primed to insure a flow of water, but we do not believe that the extent of the flow is limited to the amount used in priming," [30] as the Flexner School maintains.[31]

As to the positive conditions essential to maximum transfer, there is far less agreement among psychologists, but it is clear that views once regarded as conflicting are gradually being harmonized. The importance of conscious generalization is urged by one school as the indispensable means of securing maximum spread.[32] Another emphasizes the importance of identical elements and their conscious recognition.[33] A third school reconciles the two views by insisting upon dissociation as the process by which the identical element is perceived and generalization made

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[28] John Dewey, *How We Think*, p. 13 (D. C. Heath & Co., 1910).

[29] *Cf.* H. L. Miller, *Creative Learning and Teaching* (Charles Scribner's Sons, 1927). See also H. C. Morrison, *The Practice of Teaching in the Secondary School* (University of Chicago Press, 1925), pp. 29-30.

[30] *The Classical Investigation*, p. 187.

[31] Abraham Flexner, *A Modern School* (General Education Board, 1921).

[32] C. H. Judd, *Psychology of High School Subjects* (Ginn & Co., 1915), p. 414.

[33] E. L. Thorndike, *The Psychology of Learning* (Bureau of Publications, Teachers College, 1913), p. 358.

possible.[34] The literature of this subject is of immense importance to the supervisor of Latin. A symposium in the Classical Report reflects the present consensus as to the essential steps in the process and should be studied with care.[35]

It is apparent that the field in which teachers of Latin are confronted with practical problems of transfer is wide in extent and highly varied in character. Possibly the most generally helpful point of view will be found in regarding the various aspects of transfer as resulting from an almost infinite variation in the extent and tangibility of the common elements. When the common element is large in extent and objective in character, as in the case of the vocabulary element common to Latin and English, pupils can readily be trained to make the transfer. In the case of the disciplinary and cultural values, the common element, while still present, is far more intangible and calls for a much higher type of generalization before the new habit, attitude, or ideal can be freely associated with activities other than those of the Latin classroom.

With objectives selected in conformity with the criteria suggested, and with conditions set up favorable for transfer, one may reasonably maintain that the aim is through Latin to teach all of the pupils to do better the desirable activities that they will perform anyway; to reveal to the majority higher types of activities for which the study of Latin will provide abundant experience; and, finally, to reveal to the gifted few possible activities of the highest cultural and emotional nature and lay the foundations for their later full development.[36]

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[34] Inglis, *op. cit.*, pp. 397-398.

[35] *The Classical Investigation*, pp. 183-188.

[36] *Cf.* T. H. Briggs, "Curriculum Reconstruction in the High Schools," *School Review*, Vol. 31, February, 1923, pp. 109-115. See also his *The Junior High School*, p. 157.

The content of the Latin course. 1. *Basis for choice of content.* The selection and organization of content should be dominated by the necessity of providing favorable conditions for both the mastery of Latin itself and the attainment of valid educational objectives.[37] The data presented in the Classical Report demonstrate that in contradiction to this principle, the traditional course produces, especially in the first year, a congestion which is unfavorable either for Latin itself or for the attainment of its educational values.[38] This condition has been recognized for many years, but the proposed remedies have, so far, been ineffective. When one discovers that a 75 per cent knowledge of the syntax of the subjunctive commonly included in first-year books is not attained by the average pupil until the seventh semester of the course, and a 75 per cent knowledge of the forms of the subjunctive is not attained until the sixth semester, one may conclude that here is a unit the postponement of which would not materially reduce the knowledge of it actually successfully taught during the first year, and would provide the necessary opportunity for more thorough mastery of other topics, which, as the data indicate, sorely need it. The remedy lies, then, in the deliberate elimination or postponement of a sufficiently substantial part of the traditional work of the first year to provide relief and make a real mastery of the rest possible.[39]

2. *Forms and syntax.* The influence of educational ob-

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[37] *The Classical Investigation*, pp. 123-124; 125, 129, 133, 135, 140.

[38] *Ibid.*, pp. 90-92; 137-138; 142-143.

[39] The writer does not believe that the average class can assimilate thoroughly the elementary forms and syntax at a rate faster than is suggested in the Classical Report (pp. 157-160 on syntax and 160-162 on forms). The distribution there recommended represents the maximum. The experience of foreign nations is pertinent on this point (*ibid.*, pp. 111-113).

jectives upon the selection of the forms and syntax to be taught is slight.[40] If the syntax and forms of Latin are taught with sufficient completeness for the needs of that language, practically all the opportunities for applications to English and other languages will be included. But special emphasis in teaching should be given to those facts and principles which are susceptible of application to other languages. Definite lists of Latin forms and grammatical principles to be applied to English [41] or modern languages,[42] of relations in spelling to be developed [43] and of general language concepts [44] to be appreciated should be drawn up.

3. *The vocabulary.* The choice of a vocabulary is a different matter. The necessity of learning words important for the reading of connected Latin is a controlling factor. This should not, however, preclude, as it has in the past, the inclusion in the work of the first two years of words primarily important for English, since otherwise a very high percentage of the pupils will never meet them.[45] All words of unusual importance for English can be introduced without decreasing the value of the vocabulary as an instrument for reading Latin. Information as to what words are important for English is therefore important; the verb *for* might, for example, be included in the work of the second year and made the basis for explaining *affable, nefarious, ineffable, prefatory,* with interesting sidelights

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[40] *Ibid.*, pp. 139-140.

[41] *Ibid.*, pp. 226-228; 232-233. M. D. Gray, "Teaching English in the Latin Classroom," *Latin Notes*, Vol. 3, No. 8 (May, 1926). M. D. Gray, *Pupil's Companion to the Study of High School Latin*, Part III (forms), *passim.*

[42] Gray, *op. cit.*, Part III (forms), pp. 304-310.

[43] W. W. Coxe, "The Influence of Latin on the Spelling of English Words." A doctor's dissertation at Ohio State University, p. 37. See also M. D. Gray, *op. cit.*, Part II, p. 137.

[44] M. D. Gray, "Questions Designed to Test the Pupil's Knowledge of General Language," *Latin Notes*, Vol. 3, No. 1 (October, 1925).

[45] *The Classical Investigation*, pp. 133-134.

on *infant, fame, fate.* It is desirable, therefore, that teachers should have, as a basis for appraising texts, information as to what Latin words are potentially most important for the understanding of the unfamiliar element of English vocabulary derived from Latin.[46] The Classical Report recommends that from 400 to 500 words be learned the first year and 500 each succeeding year. In view of the close relation existing between extent of vocabulary and reading ability, it appears that these amounts should constitute the minimum.[47]

Definite teaching and drill material for the attainment of those vocabulary values of Latin which supervisors have included in their lists of ultimate objectives should be included in the course.[48] These values include an understanding of the thousands of commonly used English words derived from Latin,[49] the understanding of the actual Latin commonly occurring in English,[50] the correct spelling of English derivatives,[51] ability to learn the vocabulary of the Romance languages,[52] and the understanding of technical and semi-technical terms occurring in other school subjects.[53] Most beginning books now include some material of this type. There is no reason why this material should be limited entirely to the first year, although a

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[46] M. D. Gray, *Pupil's Companion to the Study of High School Latin*, Part II, pp. 10-35. See also E. Y. Lindsay, *An Etymological Study of the Ten Thousand Words in Thorndike's Teacher's Word Book*, Indiana University Studies, No. 65. This study must be used with caution with respect to the conclusions drawn as to relation of the traditional vocabulary to this objective and with reference to the relative importance of individual Latin words for English.

[47] *The Classical Investigation*, pp. 156-157.

[48] *Ibid.*, p. 134.

[49] See bibliography under *The Relation of Latin to English.*

[50] M. D. Gray, *Pupil's Companion to the Study of High School Latin*, Part II, pp. 139-142.

[51] *Ibid.*, Part II, pp. 137-138.

[52] *Ibid.*, Part II, pp. 166-175.

[53] *Ibid.*, Part II, pp. 143-165.

thorough training in this field during the first year should develop the independent habit of making such applications and should reduce the amount of attention necessary thereafter.

4. *Reading materials.* *a.* Easy connected Latin for beginners. The recommendations of the Classical Report that connected reading be introduced as early as possible and be made thereafter the indispensable vehicle of progress appear eminently sound.[54] Most of the connected reading found in first-year texts of the older type is supplementary in character. Since it is not essential to "covering the ground," a premium is put on omitting it and confining the work to isolated sentences. It may be added that it usually is omitted. Much of the difficulty arising later in connected Latin is due not only to the fact that the pupil has had little experience with the fully developed Latin periodic sentence, but also to his failure to sense the fact that Latin is a vehicle for expressing natural and connected thoughts, and that his task is to find out what those thoughts are. Since no demand of this nature is made by isolated sentences, he later attacks connected Latin with the unconscious conviction that each sentence is an isolated unit with no connection with what has gone before or comes after. If continuity of thought is emphasized from the beginning through the use of connected narrative as the essential element, a proper attitude toward language as a means of expressing and comprehending thought may be secured from the first.

In this country the tradition has become established of having all the material needed for the work of any one year included within the covers of one book. In England the separate publication of short narratives, consisting both of "made" Latin and of selections from classical authors, is an established custom. Much of this material is admir-

[54] *The Classical Investigation*, pp. 124-125.

ably adapted in kind to the needs of our American schools. First-hand acquaintance with this material seems to be an essential element in the equipment of supervisory officials and of Latin teachers in general.[55] The editing of these books leaves much to be desired from the American point of view, but, if a demand for this type of material develops, there is no doubt that American publishing firms will provide a supply.

The new statement of requirements of the College Entrance Examination Board indorses the recommendations of the Classical Report that for the first three semesters the Latin reading material consist of easy, "made," or adapted Latin and that the reading of a classical author be postponed until the fourth semester.[56] It should be borne in mind that the only legitimate criterion as to the point at which the reading of classical Latin should begin is the degree of reading power developed by the pupil and not any arbitrary number of semesters. The habit to which we have been addicted of keeping the grade of difficulty of the Latin read several stages ahead of the capacity of the pupils to read Latin has been responsible for much of the wild splashing and hopeless floundering which has attended their introduction to classical authors. Some classes may profitably postpone the reading of the unmodified text of a classical author until the fifth semester.

A total of eighty pages of connected reading is suggested for the first three semesters.[57] In selecting this material attention should be given to the following criteria:[58]

1. The conformity of the "made" Latin with the genius of the Latin language and the consequent avoidance of English-Latin.

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[55] *Ibid.*, pp. 144-148 (comprehensive list).
[56] *Ibid.*, pp. 125 and 130.
[57] *Ibid.*, pp. 144-146.
[58] *Ibid.*, pp. 128-130.

2. The employment of themes dealing with essentially Roman ideas such as Roman traditions, legends, and stories embodying the characteristic virtues of the Romans; private and public life; classical mythology.

3. Adaptability in difficulty to the ability of the pupil.

4. Suitability of the thought content to the maturity of the pupil.

5. Suitability for creating a sense of progress.

6. Intrinsic interest of the material to the pupil.

These criteria are, of course, equally valid for the selection of material from classical authors in the later semesters.

b. Classical authors. The recent action of the College Entrance Examination Board in requiring only one semester's work in Cæsar, one in Cicero, and one in Virgil makes it possible even for those systems which are largely under the influence of the Board to introduce a wider variety of classical authors than has been possible in the past. Furthermore, the omission of any prescription as to amount or as to specific selections makes it possible to re-examine Latin literature for the purpose of introducing into the course selections which are intrinsically more significant and more valuable for the development of the historical and cultural objectives. Reappraisals of the potentialities of Latin literature from the point of view of secondary education are doubtless forthcoming. Experimentation is highly desirable and can now be carried out with less anxiety than formerly. Nor should temporary failure in some experimental work deter educators from continuing it. Supervisors should be keenly alive to all new publications and experiments in this field, but changes should be introduced gradually. The Classical Investigation contains a list of material from classical authors which provides a basis for such departures. The resources there catalogued should be familiar to supervisory officials.[59]

[59] *Ibid.*, pp. 149-151.

c. Collateral reading in English. The growing tendency to supplement the study of Latin by definite reading on suggested or prescribed topics in English is strongly supported by the Classical Report.[60] The teachers whose opinions are registered in this report are practically unanimous in insisting that the historical and cultural objectives of the study of Latin could not be adequately secured except with the aid of supplementary and correlated reading in English.

In the Classical Report, pages 152 to 157, there is a list of topics appropriate for various years of the course upon which pupils may read with profit. This list furnishes simply the starting point. Pupils cannot be expected to grope blindly for information on such topics. Specific lists of references to special topics should be provided for their information.

It seems, furthermore, abundantly clear that pupils cannot attack a serious narrative or argument in Latin with any very well-grounded hope of understanding it unless the background which the writer assumed to be in the possession of his readers is actually there. Systematic collateral reading is therefore encouraged as desirable both as an aid to the mastery of Latin itself and to the realization of its educational values.

The choice and use of methods in Latin. 1. *Considerations that govern the choices of methods.* In determining the methods to be used, in general and in particular, consideration should be given both to the immediate objective of securing progress in the mastery of Latin itself and to those educational objectives which are potential products of method. Such a synthesis requires that, above all, the methods of teaching should be such as will develop in the pupil correct habits of study. Obviously, the methods adopted by the teacher can be effective in develop-

[60] *Ibid.*, pp. 98-99; 133-151; 204-205.

ing the pupil's power to read and understand Latin or in developing valuable general attitudes and habits only as they create corresponding methods of study in the pupil. In harmony with all sound teaching, the methods employed in teaching Latin should utilize constantly and fully the previous experiences of the pupil. Finally, the methods of teaching should enlist the interest of the pupil to the fullest extent consistent with the educational ends in view. Other things being equal, the pupil will acquire more readily, retain longer, and apply more extensively those facts and processes in which his interest is most keenly aroused.[61]

2. *Methods of mastering the elements of Latin.* The detailed applications of these general principles in learning, fixing, using, and applying elsewhere the elements of Latin have been suggested repeatedly in preceding discussions. The one dominating legitimate motive to be cultivated in the attack upon a Latin sentence, paragraph, or complete unit, is clearly the desire to get the thought, to understand the story told by the Latin. The lack of such a motive is linguistic stultification. Accordingly, if, as all critics are agreed, greater emphasis should be placed upon the functional and less upon the formal study of the elements of Latin, it follows that the function to be emphasized is the comprehension of thought, and that the method which most convincingly emphasizes function will be one that makes the comprehension of thought the genuine motive for mastering the details of the elements.

It follows that new principles of syntax, new forms, new words should regularly be first met in an appropriate and enlightening context, preferably that supplied by a continuous narrative.[62] Thus a genuine motivation is provided, since the pupil must make intelligent use of the new

[61] *Ibid.*, pp. 181-183.
[62] *Ibid.*, pp. 206, 217, 229.

form, word, or principle in order to understand the thought. Function is thus intimately associated with form at its first appearance. When, as frequently happens, the thought can be and is understood sufficiently well for practical purposes without a conscious knowledge of the new form or principle involved, the definite attack upon the new item may well be postponed until some occasion arises where the comprehension of the thought absolutely requires an explicit understanding of it. In other words, the first appearance of a new principle is likely to arouse in our overdeveloped grammatical conscientiousness the instinctive feeling that we must not pass over this grammatical point without its being thoroughly understood. The flexibility demanded by the use of continuous narrative requires the free introduction of forms and syntax in advance of their mastery whenever precisely the condition above described exists and whenever ignorance of the construction will not actually prevent an understanding of the thought.[63]

These considerations point to the desirability of developing many grammatical principles, the meanings of many new words, and some of the forms inductively from the reading.[64] In syntax, for example, the pupil may be

[63] *Ibid.*, pp. 136, 141.

[64] The inductive development suggested at this point should not be identified with the so-called Inductive Method popular a few years ago and now discredited. That Inductive Method undoubtedly contained a sound principle, but it illustrated a common tendency to exaggerate the merits and scope of a method valid within limitations, give it a distinctive label, and artificially force all the activities of a subject to conform with the label, ignoring meantime the greater suitability of other methods for various phases of the work. A sound method must spring from the nature of the problem, and, accordingly, there will be as many valid specific methods as there are specifically different problems or different natural approaches to the same problem. Thus a great deal of emphasis has been placed in this chapter upon the use of apperception in learning Latin, but it would be incorrect to label it the Apperceptive Method. Similarly, much attention has been devoted to the desirability of establishing relations between Latin and English, but it could not

trained to discover for himself, first the grammatical idea expressed by a word in a given form, that is, what it tells about the rest of the sentence, and, then, to observe the way in which the idea is expressed, at the same time identifying any principle that is already familiar to him in English.[65] The learning of formal rules will thus be postponed until they become simply formulations by the pupils of repeated experiences that a certain idea is expressed in a certain way. When finally stated in a definite form, it should be thoroughly mastered. If new words are met first in a significant context not only will they be much more likely to have genuine meanings attached to them, but these meanings can very commonly be inferred by the pupil himself through the demands made by the context and through the further assistance furnished by derived English words and related Latin words already familiar.[66] If pupils are actually to develop the habit of attacking new

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for that reason properly be called a Latin-English course or the Associative Method or the Application Method. Or again, the recommendation that oral Latin be continuously used throughout the course would not justify describing it as the Direct Method. In the same way the use of the inductive principle is strongly advocated as an important tool in the apprehension of syntax and vocabulary and to a lesser degree in forms, but this does not make it the Inductive Method in the earlier use of the term, for in that all the desirable contributions of other mental processes were ignored. Some grammatical principles may be most effectively developed apperceptively through identification with familiar English principles, others inductively through connected Latin, others inductively through isolated sentences organized for the purpose, and still others by analogy and some undoubtedly deductively through the learning of principles furnished by the textbook or teacher, when the cost of an inductive development would be excessive. A given principle may be most thoroughly mastered by using several different approaches. Furthermore, in so far as the old Inductive Method was valid, the execution of the plan was, except for very superior pupils or classes, exceedingly defective in that it provided a totally inadequate reading basis for induction.

[65] *Ibid.*, pp. 136, 217-219.

[66] *Ibid.*, pp. 206-210.

words and constructions in this way in the independent preparation of their lessons instead, for example, of looking up a new word immediately in the vocabulary, it is clear that persistent effort must be made to give the necessary training through daily classroom practice in solving such problems. The extent to which a book encourages pupils to use their own powers to the utmost in the solution of such problems provides supervisors with another criterion for judging texts.[67] The textbook that is systematically provocative is much to be desired.

The organization of forms into paradigms and the memorization of these paradigms should follow and not precede practical experience with these forms in reading.[68] This does not mean that before learning any given declension every form should have been met, but that enough should have been met to guarantee that the forms connote functions and not positions in a paradigm or formal English equivalents. Since the ability to read Latin involves the prompt recognition of the several possibilities of the given form, it is assuredly more important that a pupil should be able, for example, to recognize promptly the four possibilities of form contained in a first declensional word ending in "*ae*" than to be able formally to decline the word. Thorndike states the principle as follows: "Form a habit in the way which it is to be used."[69] In its proper place the learning of paradigms is a convenient method of consolidating and organizing the knowledge gained. It is strongly recommended that systematic drill throughout the course be given in recognizing all the possibilities of the given forms and in differentiating between forms likely to be confused. When a pupil locates a form incorrectly, it is

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[67] *Ibid.*, p. 208.

[68] *Ibid.*, pp. 141, 228-233.

[69] E. L. Thorndike, *Educational Psychology*, Vol. II (Bureau of Publications, Teachers College, Columbia University, 1913).

usually because there is another form of which he is not sure. There are really two weaknesses here, and it should be the teacher's business to bring the two vaguely confused forms into the open to be analyzed and learned. The latter can be done only by systematic drill in recognition, for these forms may not often appear in juxtaposition in the text.

In the mastery both of syntax and of inflection the utmost use should be made of knowledge already acquired in English. The desirability of this is commonly recognized in the teaching of syntax, but it is equally desirable in the teaching of inflection. A useful summary of some of the opportunities for connecting Latin inflections with English will be found on page 232 of the Classical Report.

If these considerations are sound, the validity of certain common practices is at once called into question. If the function of syntax is to assist in the comprehension of thought, the practice of asking questions on syntax after translation, as a normal and regular classroom exercise, has no legitimate function to perform, since comprehension has already been tested by translation.[70] If the purpose of learning forms is to enable the pupil to recognize a given form as it is met in sentences, initial drill on paradigms tends to set up habits and associations unfavorable to the immediate and direct recognition required in taking in the thought of a Latin sentence in the Latin order and, furthermore, such initial drill forces the pupil to give equal attention to forms whose relative importance varies greatly. The practice common in first-year books of requiring the learning of arbitrary meanings of new words before they are met in sentences inhibits the pupil from using his own powers in solving new words, develops the unreflecting vocabulary habit which usually persists throughout the

[70] *The Classical Investigation*, pp. 61-62, 224, 225.

course, and prevents his ever really understanding the meanings of words. For Latin words are not isolated concepts corresponding arbitrarily to English equivalents. Words derive different meanings and connotations from different contexts and require translations in harmony with those contexts. The pupil should be taught to know the word as it is used, and not as an isolated entity corresponding in meaning to its English equivalent.

Notwithstanding these advantages, there is one serious danger to be avoided in the use of inductive methods. Permanent mastery does not come through one development of a new word, form, or principle. Systematic, persistent drill is essential. This is largely the function of oral and written composition and particularly of sight work. Systematic reviews should include functional or associative material. Purely formal reviews are likely to be of little permanent value.

What proportion of the time should be devoted to the writing of Latin or prose composition is debatable. Teachers are generally agreed that the chief function of writing Latin is to assist in fixing permanently the important facts of syntax, inflections, and, to a lesser extent, vocabulary. It is believed, therefore, that written composition contributes only indirectly to the ability to comprehend and translate Latin. Yet in many classes approximately one-fifth of the time is devoted to an activity removed by two stages from the power to which it is expected to contribute. There are no data available to indicate whether this activity makes a sufficiently large contribution to reading power to justify the time spent. It may reasonably be asked whether the same amount of time spent on sight work would not produce greater effect on reading ability. Experiments in this direction are much to be desired. The Classical Report urges the substitution of oral Latin for much of the traditional written work, on

the ground that the eye, ear, and hand are all needed in the mastery of Latin.[71]

3. *The comprehension of Latin.* The reasons for advocating the Latin-word-order method of attacking the Latin sentence have already been pointed out. This involves the development of a definite technique based upon regular, daily exercises in comprehension and translation "at sight" in class and systematic efforts to secure the use of the same methods in home study. For detailed suggestions as to methods of procedure the reader is referred to the Classical Report, where this topic is treated at length.[72]

The use of oral Latin, especially in the elementary work, as a means of encouraging direct comprehension of Latin, is strongly urged in the Classical Report,[73] and supervisors should be familiar with the significant material in this field.[74] This use of oral Latin, consisting largely of questions and answers on the text, should not be confused with the direct method, and the cogent reasons given in the Report for rejecting the latter as a basic method deserve careful study.[75]

Emphasis upon the oral reading of Latin with careful attention to thought groups follows from the acceptance of the Latin-word-order method. Fluency rather than meticulous accuracy is here the desideratum for reasons suggested previously. Nevertheless, fluency depends upon

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[71] *Ibid.*, p. 193. Also see W. L. Carr, "Shall We Teach Our Pupils to Read Latin?" *Classical Journal*, Vol. 23, March, 1928, pp. 500-510; Dunham, "The Oral Method in Latin," *Classical Journal*, January, 1925, p. 226; Gonzalez Lodge, "Oral Latin and Its Relation to the Direct Method," *Teachers College Record*, Vol. 16, March, 1915, p. 18.

[72] *The Classical Investigation*, pp. 189-190, 288-302.

[73] *Ibid.*, pp. 192, 195.

[74] W. L. Carr, *Latin in the Junior High School*, Service Bureau for Classical Teachers, Bulletin I, March, 1925, pp. 7-28. (Bibliography, pp. 71-78.)

[75] *The Classical Investigation*, pp. 233-235.

confidence resulting from constant classroom and home practice, and this presupposes a reasonable accuracy based chiefly upon imitation rather than rules. The phonograph records which are appearing, however much they may be theoretically criticized, provide, in Latin as in modern languages, fully as high a standard of pronunciation as can possibly be expected either from pupils or teachers of Latin, and may be profitably used, especially by individual pupils who show the need of supplementary guidance in home practice.[76] The chief defect of the records is that they allow no opportunity for immediate repetition by the pupils. Naturalized Latin words and phrases occurring in English should be given their accepted English pronunciation.[77]

If comprehension of thought is the motive with which pupils are to attack new Latin whether in class work or home study,[78] there should be uncompromising insistence, at no matter what expense of time and energy, that the thought actually be completely understood. Of all the criticisms leveled against the teaching of Latin, possibly the one fundamentally most serious is that pupils, even when they have translated a classical author fluently and with apparent accuracy, do not really know what they are reading about. What is necessary in order to correct this in the reading of an oration of Cicero may be inferred from what is needed in English classes in the reading of Burke's *Speech on Conciliation.* Here pupils are reading a speech in their own vernacular on a topic for the understanding of which they have considerable apperceptive knowledge. Yet it is not expected that pupils will be able to follow the argument, see the relation of individual

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[76] Student Educational Records (Aural Educators, Lakewood, N. J.).

[77] *The Classical Investigation,* p. 191.

[78] *Ibid.,* pp. 199-200, 204.

sentences to the progress of the argument, or read between the lines, without careful classroom work under a teacher throughout the greater part of a term. It cannot be asserted that pupils who may be translating Cicero fluently are really understanding the thought expressed any more than pupils understand Burke from reading it straight along. It is to be feared that one of the most pernicious results of the pressure to cover ground in Latin has been the frequent failure to make a serious attempt to get the connected thought of connected Latin, and the feeling that the goal has been attained, when pupils have put the Latin into English. It may safely be asserted that most pupils have simply reached the stage at which they begin when reading Burke. It is not intended to suggest that the attack upon the thought should take place after translation. On the contrary this understanding should come through a study of the Latin itself, much of it even before the selection is begun, just as pupils should have a very good idea of the general setting and background of Burke's speech before they begin to read it.

This is a reform which can be put into effect without any additional apparatus. We can resolve and put that resolve into immediate execution that pupils are actually going to understand what they are reading about in the large as well as in the small. The collateral reading in English, which has been suggested as a desirable accompaniment of the study of Latin throughout the course, should, as the reading of each unit of classical Latin successively impends, aim specifically to equip the pupils in advance with sufficient knowledge to enable them to fit the details read in Latin into a general whole. This preliminary work in English, if it is actually to accomplish its purpose, should be based upon the specific topics essential to an understanding of the story told by the Latin. It may profitably be based upon specific questions on these topics. In any

case it should be treated as seriously as the work in Latin. This procedure of itself serves to put the pupils in the proper attitude toward the Latin text as a problem in comprehension of a story told by the Latin. There should then be continuous insistence that the contribution of each sentence to the narrative or argument be actually apprehended. Nothing can be taken for granted, for the willingness of the human mind inertly to accept and use words in the place of thoughts seems limitless! If it is found that really to secure comprehension of the thought of a given unit requires an excessive amount of time, this fact constitutes a serious indictment of our wisdom of including this unit in the course.

Where geographical knowledge is essential to a comprehension of the narrative, the reading of the text should be preceded as well as accompanied by a thorough study of the geographical setting. Maps are now a normal part of the equipment of the Latin classroom, but one may question whether they are studied with sufficient thoroughness and intelligence to create a vivid picture of the scene of operations. The type of map used is an important factor. Many maps are so detailed as to make visualization practically impossible and even to discourage the effort to use them. Maps are now appearing, however, constructed on a pedagogical basis, expressly devised to aid pupils to form mental pictures and including only the minimum of detail needed for the understanding of the texts read. In selecting maps, supervisors may safely apply the criterion that, generally speaking, the value of a map is in inverse proportion to the amount of detail.

All this requires that the traditional equipment of the Latin teacher be supplemented by a very thorough knowledge of the internal and external history of Rome and of its relation to modern history.

4. *The translation of Latin.* The quality of English

used in the Latin class has been severely criticized.[79] The Classical Report ascribes the admittedly low standards in the quality of English used in translation to the pressure to cover ground and to the use of translation as the sole means of testing comprehension.[80] If the suggestions made with reference to the use of other methods of testing comprehension are accepted[81] and if translation is regarded actually as an exercise in oral or written English, the reduction of emphasis upon the amount to be covered should make possible uncompromising insistence that the portions

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[79] S. R. Miller, and T. H. Briggs, "The Effect of Latin Translation on English," *School Review*, Vol. 31, December, 1923, pp. 756-762. M. N. Woodring, *A Study of the Quality of English in Latin Translations;* a doctor's dissertation at Columbia University, 1925. This is a very important, although not very comforting, study for the Latin teacher. The following portions are particularly valuable: Ch. iv, "The Choice of Words in Latin Translations," Ch. v, "Errors in Grammar, Rhetoric, and Spelling in Latin Translations," Ch. vi, "Conclusions." The concluding paragraphs read as follows: "The data presented in this study show that correct and effective English is not used in a large per cent of the Latin translations written by graduates of high schools who have had four years of Latin and who are applying for admission to college. About one-half of the translations of the students, who passed the examination for entrance to college and were admitted with four units of Latin credit, were written in incorrect and ineffective English.

"If Latin is to function in the improvement of English of those students studying Latin, the conditions found in this study must be remedied. More systematic provision should be made for careful criticism and revision of the translations presented by pupils, and only that English which is structurally and idiomatically correct should be accepted by teachers of Latin. If the Latin program is too crowded for such criticism and revision of translations, then less content and better form should be agreed upon. 'Automatic realization of the values implicit in Latin cannot be counted on to any large extent. The time must be found for the introduction of appropriate material and the use of appropriate methods in order to secure the satisfactory attainment of any of the ultimate objectives of Latin.' If this cannot be done then Latin cannot justify the time it is consuming in the high-school program."

[80] *The Classical Investigation*, pp. 47-48 and 201-203.

[81] *Ibid.*, pp. 194-196.

of the text set for translation be rendered in the best English at the pupil's command. Consciousness of this aim on the part of pupils is an important factor. When volunteer corrections of errors by pupils, common in other phases of the work, normally include suggestions for the improvement of the English used, this consciousness has been secured. Its development can be facilitated by concentration upon a number of types of regularly recurring errors, such as the slipshod use of English derivatives in translation, the stereotyped translation of such words as *magnus, res, locus,* the misplaced pronouns in sentences of the *Hercules ubi* type, the mechanical use of *of* as the invariable rendering of the genitive, and the literal rendering of ablative absolutes. A list of such recurring types should be drawn up by each teacher.

The paramount importance of daily classroom practice in comprehension "at sight" with and without translation has been emphasized repeatedly in this discussion. It is, in fact, the indispensable key of the new Latin program. Work "at sight" has always theoretically been considered a desirable activity, but in practice has been relegated to the scanty end of the period, when, and if, everything else has been done. The principles outlined in this chapter involve a complete reversal of emphasis. Through sight work and sight work alone can pupils be trained to take in the thought of a Latin sentence in the Latin order. There can be little ground for expecting pupils to attempt to prepare their assignments in this way unless they leave the class each day with a fresh illustration of how to do it. Through sight work only can pupils be trained to solve new problems in vocabulary, syntax, and forms and be equipped with the necessary technique to enable them to solve similar problems independently. Thus the recitation assumes its proper function as a "teaching" period.

Emphasis upon the functional side of the elements, upon

the inductive approach to new problems, upon comprehension of thought in the Latin order, and upon translation as an exercise in English provides simultaneously far more favorable conditions for the realization of the educational values implicit in these activities than does the traditional treatment of these problems. The use of known Latin words for the understanding of unfamiliar English derivatives is simply complementary to the use of familiar English words in solving new Latin words. Thus the systematic study of English derivatives, of the spelling of English words, of Latin words and phrases occurring in English, of technical terms, the relating of Latin syntax to English in either direction, some consideration of the vocabulary, syntax, and inflections of the Romance languages, and the further development of general language concepts, all become natural outgrowths of activities explicitly used in the mastery of Latin itself.[82] It seems clear also that the same methods emphasized for the purpose of improving the mastery of Latin offer far better opportunities for the development of desirable mental traits than the traditional formal treatment. Obviously the mental attitude which regards each new word or principle as a problem to be solved through the use of previously acquired resources represents a far higher type of mental activity than memoriter learning.[83] If the ability to see relationships is considered as one of the highest functions of the mind, then a method which puts a premium upon recognizing the relationships between English and Latin in the study of vocabulary, syntax, and inflection is a higher form of activity than the mastery of each of those elements in isolation.[84] Attention has already been called to the service which the genius of the Latin sentence may perform in

[82] *Ibid.*, pp. 210-222.
[83] *Ibid.*, pp. 208-209, 219, and 233.
[84] *Ibid.*, pp. 59, 217, 228, and 233.

developing the general habit of suspended judgment.[85] In other words, it appears to be true that methods which are, on psychological grounds, best adapted for the mastery of the elements of language from the point of view of the language itself are at the same time of far greater potential value for the development of general and desirable mental traits. Thus a synthesis of immediate and ultimate objectives is attained, giving unity and coherence to the course and effectively correcting any centrifugal tendency that might otherwise result from the development of activities which look outward toward life instead of inward toward Latin as an end in itself.

5. *Tests and measurements in Latin.* Up to the present time tests and examinations in Latin have been almost exclusively limited to the immediate objectives of the subject.[86] It is clear, however, that if success in attaining the ultimate educational aims of the study of Latin constitutes the main justification for the study of Latin for the majority of pupils, tests to measure the results of teaching should cover with equal thoroughness all the indirect values of Latin which have been made actual objectives of classroom work.[87] Pupils will naturally come to regard any classroom activity for the results of which they are not held as definitely responsible as they are for mastery of Latin itself as purely incidental and will limit their serious efforts to those phases of the work for which they discover they are held strictly responsible.

Now it is obviously impracticable to include in the traditional written comprehensive examination questions relating to all of the immediate and ultimate aims of Latin. Here the development of the new-type tests provides an opportune solution of the difficulty. The superi-

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[85] *Ibid.*, pp. 198-199.
[86] *Ibid.*, pp. 177-180.
[87] *Ibid.*, 203-204, 215-217, and 228.

ority of the new-type tests regarded simply as a means of accurate measurement over the exclusive use of the long written examination has been abundantly demonstrated. They provide an opportunity not merely at the end of a term but repeatedly throughout the term to test attainment in specific aims with a comprehensiveness and objectivity never attained through the written examination. Their easily scorable character, the comprehensiveness with which individual units may be tested, the interest which pupils take in them, and the possibility of touching upon every phase of Latin instruction at some time during the year, make them an indispensable adjunct to the conception of the function of Latin embodied in this chapter. Teachers will find a sufficiently adequate description of the new-type tests, of their various forms, of their advantages, and of the methods of constructing and administering them, in two modest books which should be in the possession of all supervisors of Latin: *The Improvement of the Written Examination* by G. M. Ruch and *Preparation and Use of New-Type Examinations* by D. G. Paterson.[88] At the end of this chapter will be found a bibliography of tests available for teachers of Latin and illustrating most of the objectives, immediate and ultimate, of the study of Latin. Samples of all available tests should be in the possession of supervisory officials. When the tests do not seem available for use in their present form, they will furnish suggestions for the construction of new and possibly shorter tests of the same character.

One aspect of the new-type tests is not sufficiently emphasized in the discussions referred to above. Such tests provide an opportunity for exact diagnosis of weakness and the immediate application of remediable measures. When, for example, a test on forms is given, it is possible by simply arranging the papers in the order of the grades

[88] See bibliography at end of Ch. i.

received to determine what pupils disclose such serious weakness as to require special remedial measures. One may, without testing a class, be aware that a pupil is not doing satisfactory work, but, because of the demands made by large classes, the cause of the weakness may remain vague and uncertain to both pupil and teacher throughout the term. The unitary objective tests furnish exact diagnoses of such weaknesses. Furthermore, the results of such tests are particularly convincing to the pupil, and very rarely will a pupil whose weakness has thus been objectively revealed to himself be unwilling to undertake equally specific remedial tasks. There is probably no single element so favorable for the progress of a class as a whole as homogeneity. Every diagnostic test with its disclosure of the lack of that element, followed by the application of remedial measures, provides a practical means for securing a greater degree of uniformity in the apperceptive equipment of the class. Thus the new-type tests are not only desirable improvements over the written examination as a means of exact measurement, but they may become also an integral and effective part of the teaching process itself. For diagnostic purposes it will be found that tests requiring less time in class than most of those in the list can be profitably used.[89] The methods of applying remedial measures will vary with individual pupils and different classes. The test itself provides a convenient first assignment.

Supervisors should be familiar with contemporary efforts to create prognostic tests to determine what pupils should study Latin.[90] Even from the comparatively nar-

[89] A set of short diagnostic tests on various phases of the work in Latin can be obtained from the writer.

[90] W. S. Allen, *A Study in Latin Prognosis*, a doctor's dissertation at Columbia University, 1923; Jacob Orleans, *A Latin Prognostic Test* (Bureau of Publications, Teachers College, Columbia University, 1926) and W. L. Uhl, *Secondary School Curricula* (Macmillan Co., 1927). The best test thus far produced is the Orleans Solomon Prognosis Test (World Book Co.).

row point of view from which the problem has thus far been attacked, no satisfactory test has yet been devised. There is, furthermore, one fundamental defect in all the efforts thus far made. A teacher of modern languages who sets up the potential direct values of the subject as the goal might properly use a prognostic test intended to measure purely linguistic power. But if both direct and transfer values are regarded as the justification for the study of Latin, one cannot assume without proof that the potential ability of pupils to secure these values to an extent justifying the study of Latin is measured by tests of linguistic ability. Every teacher is familiar with pupils of the narrow bookworm type who apparently make good progress in Latin, but who resist any attempt to broaden their outlook, and who may actually be securing smaller educational returns than pupils not so well endowed linguistically but who possess a better innate ability to see relations, to generalize, and who are consequently securing very substantial returns from the study of Latin. Until prognostic tests include this element, they will be unable to furnish a basis for predicting who should study Latin; *i.e.* who are so equipped mentally as to create the presumption that they will profit by the study of Latin, not merely through the rate of progress made in Latin, but through the attainment of the educational values of the subject. The synthesis of direct and transfer values, emphasized throughout this discussion, needs also to find expression in any ultimately valid prognostic test for Latin.

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CHAPTER V

THE SUPERVISION OF MODERN FOREIGN LANGUAGES AND LITERATURE

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The province of the supervisor of modern foreign language and literature teaching. One who supervises the teaching of modern foreign languages and literature has a multiple task. At least three languages fall within his province. Language and literature also unite to complicate his duties, requiring him to devote himself simultaneously to directing pupils in the mechanics of language and the interpretation of literature. For these divisions of his province, the supervisor must outline the aims of courses and establish appropriate content for both the junior and the senior high school.

The supervisor should know at least one of the languages to be taught, not superficially, but intimately, far more intimately than the rank and file of teachers. He must know psychology. His contacts with other administrators as well as with the teachers under his charge depend to a large extent upon his knowledge of and ability to handle human nature, while the modern emphasis upon the adaptation of school subjects to individual needs and capacities makes a knowledge of the learning process a vital element of his equipment. He must be an expert in present-day education as the modern languages impinge on administration in

such matters as the sequence of courses and time allotments, and upon tests and measurements in estimating the results obtained. Moreover, supervisory work to-day demands the ability to initiate and carry through programs of research and experimentation. The supervisor must be conversant with the theory underlying the different methods of teaching so as to aid teachers in the selection of the most suitable procedures, and to assist them by suggesting diagnostic and remedial activities from the point of view of errors usually made by both pupils and teachers. He must know what equipment is necessary and suitable for the teaching of modern languages, and the source of the best books and articles for the improvement of the teachers whom he directs. He must have a broad social outlook on life in general and upon the life of his community in particular in order to select and organize the content of courses in terms of valid aims, and he must be informed about research in his field.

With it all, and most important of all, he must be possessed of the invaluable and unteachable qualities of good judgment and common sense; these alone will enable him to separate the wheat from the chaff of the innumerable articles and books in his field and utilize for the good of the pupils and teachers under his charge what is permanently valuable from what is ephemerally popular.

The above remarks, of course, apply more particularly to the staff officer who acts directly under the superintendent in the larger cities. Such a man must possess the above-named knowledge and abilities in the highest degree. He does not need all the suggestions that follow. He is, in many cases, already acquainted with them; nay, more, could add to them. This brief analysis of a supervisor's duty is to point the way to those who have to supervise modern language teaching in addition to their other duties; the principals of smaller high schools who are obliged to

supervise the teaching of all their teachers whether they know anything about the subject or not,[1] the heads of departments whose duty it is to keep their departments up to par by tactfully guiding other teachers, or the superintendents of smaller systems who, while not intimately acquainted with the field, may wish to familiarize themselves sufficiently with it to lead and direct their teachers.

The modern foreign language study. Handschin[2] has given an historical sketch of the growth of modern foreign language and literature teaching. During the many years that the ancient languages were the élite of pedagogical society the modern languages and literature led a precarious existence on the outer fringe. They loudly proclaimed their innate title to seats with the more respectable members, but, like all parvenus, were obliged to force their way in as the opportunity presented itself. Their claims for recognition were based on much the same grounds as those of the classics, and naturally the same methods of teaching were followed. During the first phase of the battle, sectional strife was laid aside to gain a common objective—the right to exist—and so proponents of the various modern foreign languages worked together, but later an internecine conflict began as to which method of teaching should be used. The literature concerning modern language teaching until very recently, as late as 1920 in fact, consisted largely of polemics in favor of this or that method. During the interim between engagements, a few leaders considered the aims of their teaching, apparently more to acquire further ammunition than to consider scientifically an important social problem. It is only within

[1] M. O. Saunders, "What the Teachers Want from the Principal in His Capacity as a Supervisor," *School Review*, Vol. 33, October, 1925, pp. 610-616.

[2] C. H. Handschin, *The Teaching of Modern Foreign Languages in the United States*, No. 3 (United States Bureau of Education Bulletin, 1913).

the past decade that the modern language bibliography shows any concerted attempt to raise its tone from propaganda or self-satisfied introspection to the higher level of the proper place of foreign languages and literature in the general scheme of education. For this reason and in order to present the more scientific phase of modern language problems as opposed to opinions usually unsupported by facts, this chapter will deal largely with the developments since 1921, the bibliography up to 1913 being available in Handschin's monograph, and from 1913 to 1921 in Handschin's *Methods of Teaching Modern Languages*.[3]

Out of the strife and confusion especially prominent previous to 1900, with opinion only as a source of information and guidance, has come at last a scientific investigation. In 1924 the President of the Carnegie Corporation invited to a conference a group of men and women representing college and secondary teachers of modern languages. From this conference the present *Modern Foreign Language Study* was born. It is not completed at this writing (1928), but its work is clarifying many disputed points on the basis of fact, for it is a coöperative undertaking between educators whose interest is essentially on the linguistic and literary side and others who are fully acquainted with the more recent movements in the field of the scientific study of education. The work of the *Study* marks an epoch in modern language teaching, touching, as it does, every phase of the problem.[4]

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[3] C. H. Handschin, *Methods of Teaching Modern Languages* (World Book Co., 1923), pp. 381-445.

It will be noted that there are not so many references for German in this chapter as for French and Spanish. This is due to the fact that fewer articles have appeared since 1921 on the teaching of German. In many cases, however, articles which seemingly apply to French or Spanish apply to German as well.

[4] For information on the scope and progress of this *Study*, address the Modern Foreign Language Study, 561 West 116th St., New York City, or 5757 Ellis Ave., Chicago.

Aims and values of modern foreign languages and literature. Just as a contractor before building a house must have suitable plans drawn by a competent architect, a supervisor, before outlining a suitable course, or a teacher, before beginning instruction, must have a clear conception of the objectives to be attained. Teachers and supervisors have often accepted such broad and general statements of aims that their attainment has been frustrated by their very indefiniteness. The aims here catalogued have been gleaned from the writings of modern experts in this field and are, it is believed, in conformity with the general objectives of education presented in Chapter I.

The *Modern Foreign Language Study* has examined carefully all the literature of the past quarter century and has published certain ultimate aims as those to be considered in framing courses of study. It is not to be assumed that these are all valid or of equal validity. They are to be subjected, before final acceptance, to a battery of tests and experiments not only by leaders in the modern languages, but also by departments of education, of educational psychology, and of educational sociology. The list follows: [5]

1. Ability to read the foreign language with ease and enjoyment.
2. Ability to communicate orally with natives of the country whose language has been studied.
3. Ability to communicate in writing with natives of the country whose language has been studied.
4. Increased ability to pronounce and understand foreign words and phrases occurring in English.
5. Increased ability in the accurate and intelligent use of English.
6. Increased power to learn other languages.
7. A more effective realization of the habits of correct articulation and clear enunciation.

[5] *Modern Language Journal*, Vol. 9, March, 1925, p. 341.

8. Increased knowledge of the history and institutions of the foreign country and a better understanding of its contribution to modern civilization.

9. Increased ability to understand ideals, standards, and traditions of foreign peoples and Americans of foreign birth.

10. Development of literary and artistic appreciation.

11. Development of a more adequate realization of the relation of the individual to society.

12. A clearer understanding of the history and nature of language.

13. Increased ability to discern relationships and make comparisons between subjects allied in form or content.

14. Development of habits of sustained effort.

15. The ability to make prompt and effective use of foreign discoveries and inventions.

16. Development of social adaptability through increased personal contacts.

Comparing these with the general objectives of education, the most superficial examination would suggest no important correlation between any of them and health, ethical character, or parental activities. Certain of them, 1, 2, 3, 8, 15, and 16, are specifically related to such vocations as need a foreign language background; while 13 and 14 are general traits which are valuable in these as well as many other vocations. In consideration of the comparatively small number of students who will use the foreign language in their vocations and of the small number of vocations requiring such knowledge, a possible vocational use does not appear to be a valid objective in the average public school except under the most unusual circumstances.

The most valuable contributions which the foreign languages can make to the general aims of education are those which relate to the civic aim with which objectives 8, 9, and 11 are connected, to the language activities where 5, 7, 12, 13, and 14 might apply, and to spare time activities where 1, 2, 3, 4, 6, 10, 13, 14, and 16 are applicable. In considering the question of the objectives applying to a

command of language activities, one comes sharply against the theory of mental discipline which is dependent upon the procedures employed in teaching.[6] If procedures are so planned that they employ orderly, thorough, and discriminating processes, they may be expected, as stated in Chapter I, to cultivate ideals which can be used as generalized procedures in varied situations. The values of modern language study in their application to spare time activities seem to be the only ones that are unquestioned. If this is so, the educational implication is that they should be among the variable subjects of the curriculum and that the work should be conducted largely upon what Bobbitt calls the "play level."[7]

Bobbitt and Snedden[8] in recent years have touched incidentally upon this question of the place of foreign language studies in our public secondary education. Both reach the same conclusion; fewer pupils should study them, and the values hitherto accepted should be seriously questioned or changed. A questionnaire sent out by Carnahan to forty representative high-school principals and superintendents elicited much the same type of response.[9] Such writers, of course, are thinking of modern languages as but one phase of our great educational experiment of providing secondary education for all. In the technical literature of the field, however, there has been evident an aggressive reluctance to consider this point of view. Modern

[6] *Cf.* C. O. Davis, *Junior High School Education* (World Book Co., 1924), pp. 70-71.

[7] Franklin Bobbitt, *How to Make a Curriculum* (Houghton Mifflin Co., 1924), Ch. xvii. Also see his *The Curriculum* (Houghton Mifflin Co., 1918), Chs. ii and xx. See also criticism of this book from modern language point of view by C. A. Krause, *Modern Language Journal*, Vol. 5, November, 1920, pp. 113-116.

[8] Bobbitt, *ibid.*, and David Snedden, *Educational Sociology* (Century Co., 1922), Ch. xxxiv.

[9] D. H. Carnahan, "Are French Teachers Justifying Themselves," *Modern Language Journal*, Vol. 8, February, 1924, pp. 267-273.

language partisans naturally have considered the matter only from the point of view of the intrinsic value of the languages as interpreted by themselves as language experts. They have been prone to consider the problem in terms of the subject rather than in terms of the learner or of society in general.

As the sixteen ultimate objectives given by the *Study* are too general for practical application in classroom work, the following have been suggested tentatively as the immediate aims toward which the teacher of the ordinary high-school class should shape his instruction:

1. The ability to read with increasing ease material in the foreign languages within the scope of the student's interests and intellectual powers.
2. A sufficient knowledge of the structure of the language to read understandingly.
3. The ability to pronounce correctly, to understand, and to use the language orally within the limits of materials used in class.
4. The ability to write the language for class purposes with a relatively higher attainment of fluency in vocabulary and in idiom than of grammatical correctness.
5. The acquisition of some knowledge of the country whose language is being studied, and of a special interest in the life and characteristics of its people.
6. The acquisition of a knowledge of the general character and history of the modern language and of its relationship with English.

These statements bring the matter down to more workable units in classroom terms, but they may imply that all these immediate aims are of equal value and are equally possible of attainment—a fact which is extremely doubtful. The *Study* recognizes this in a later report,[10] where the minimum length of a profitable course is discussed and the statement made that there is need of considering the aim of

[10] *Modern Language Journal*, Vol. 10, April, 1926, pp. 393-395.

the ordinary two-year course, since this length of time is the maximum for 85 per cent of those who begin foreign language study. If the varied aims that largely determine our present practice in the classroom cannot be obtained in the two-year course, we should attempt to ascertain which of these, if any, can be realized in the time available and concentrate thereon. The general tendency among recent writers on the question in modern language periodicals has been to emphasize numbers 1, 2, and 5 as particularly susceptible of attainment in a two-year course.

The sequence of courses in junior and senior high schools. 1. *The junior high-school course in modern languages.* The aims and purposes of a two-year course in a modern foreign language in the junior high school must be considered from two points of view; first, from that of the institution itself, and, second, from that of the subject. The work of this school is not of the same nature as that of the elementary school below or of the senior high school above; it is an educational unit of a transitional nature, guided, it is true, by what has preceded and what is to come. As to modern languages, the aims of the junior high school as an institution must take precedence over the aims of the subject if the peculiar mission of the junior high school is to be realized.

One of the most important of these aims consists of excursions into new fields of human interest by means of introductory and exploratory courses. From this point of view foreign languages should impart before or, at least, along with the rudiments, some knowledge of the nation whose language is being studied. The student ought, therefore, to become acquainted in a slight degree with the history, customs, government, literature, and geography of that country and with the part it has played in the history of the world. He should obtain also a clearer insight into our relations with the foreign nation so as to understand

better the attitudes, customs, and ideals of the two nations.[11]

The editor of the *Modern Language Journal*[12] rightly calls attention to the need for more definite study and research as to modern foreign language instruction in the junior high school. The practice of beginning foreign languages in these grades is increasing, but whether they have a place there, or, if they have, what the aims, content, and methods should be is a disputed question and one on which objective evidence is rare.[13] It has been assumed that one year of senior high-school work is equal to two years of work in the junior high school on the analogy that two years of work in the senior high school is equal to one year's work in college. Until more conclusive evidence is presented to the contrary and in view of the exploratory nature of junior high-school work it seems wise to continue this plan. In the syllabi to follow, therefore, it is assumed that the two-year course of study in the junior high school equals one year of work in the senior high school.

From the purely linguistic point of view the aim should be to give the pupil a sound elementary training and some permanent knowledge of the foreign language he is studying in order to establish a solid foundation for the possible continuation in the senior high school. Specifically this should consist of acquiring a good pronunciation, of learning a short active vocabulary, and of some knowledge of the rudiments of the language with the ability to apply them orally and in writing. Beyond this the pupil should be trained to understand the simple language of everyday life, to answer easy questions, and to read understandingly very

[11] Adapted from "A Syllabus of Courses in Modern Foreign Languages for the High Schools of New Jersey, 1924" (mimeographed form), p. 3.

[12] *Modern Language Journal*, Vol. 12, May, 1928, p. 658.

[13] Emmet, Clark, and others, "Foreign Languages in the Junior High School," *Modern Languages Forum*, Vol. 12, pp. 13-18.

simple matter in the foreign language. At the expiration of such a course, after two years, it is expected that he will be able to enter the work of the second year of a senior high-school course or, if he, perhaps ill-advisedly, does not continue the subject, he will, perhaps, have gained some worthwhile knowledge of the language and of those who speak it.

The first half year can profitably be spent as an almost entirely exploratory or broadening and finding period, as outlined in the Philadelphia Course of Study[14] or by Bruner.[15] There should be work on such simple grammar as the articles, the cardinal numbers, the verbs "to be" and "to have" in the foreign language, simple uses of prepositions, and days of the week and months of the year.

By the end of the first year the students should have had much work in pronunciation. In French this should consist of great care and much practice in placing the sounds far forward in the mouth and clipping them so as to avoid the diphthongal sounds of English, care and practice in the tenser lip movements of French, and in the equal stress of the separate spoken syllables of words and phrases. In Spanish and German the drill should be on much the same sort of material, particular emphasis being paid in Spanish to such sounds as *b, v, d, g, j, r, rr, ll, ñ,* and on the vowels; in German to *ü, ö, r, ch, l,* etc. In all three languages attention should be paid to the proper syllabification. Oral work will naturally be suggested by the text or material used. The games, riddles, songs, pictures, or stories used will furnish a wealth of suitable material.[16]

The grammatical points to be learned by the end of the

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[14] "Suggestions to Teachers of the Modern Languages" (Board of Public Education, School District of Philadelphia, 1924).

[15] H. B. Bruner, *The Junior High School at Work* (Bureau of Publications, Teachers College, Columbia University).

[16] For suggestions as to realia see the bibliography at the end of this chapter.

first year in French and Spanish should consist of the use of the definite and indefinite articles, the gender and plural of ordinary nouns, the agreement and position of adjectives, possessive and demonstrative adjectives, single pronoun subject forms and at least direct object forms, and cardinal numbers. In German the material should be much the same, taking into account the different structure of the language. The declension of articles, limiting and descriptive adjectives, nouns, personal pronouns, and possessive adjectives should be carefully drilled upon and learned, and the fundamental uses of cases and articles taught. Formal rules for gender and formation of the plural should be taught sparingly, but these relations drilled upon by insisting upon the giving of the definite articles and the nominative plural. In Spanish and French the common regular verbs may be taught in the present, and possibly the perfect and future indicative, together with such irregular verbs in these tenses as *decir, ir, ser, estar, hacer, dire, être, faire, mettre, pouvoir, vouloir,* and *tenir* in French. The negative and interrogative forms of these verbs can be taught in the oral drill. The verb work in German should consist of the present and preterite of auxiliaries of tense, the present, preterite, perfect, and future of common weak verbs and of a few commoner strong verbs. Word order and the position of the verb should enter into this work in the case of German.

In reading there should be a minimum of twenty pages for drill and fifty for rapid reading in some easy reader. In writing there should be frequent easy dictation exercises over familiar material with much attention to the accents in French and Spanish. Since the ability to read is coming to be recognized as the most attainable single aim of modern language teaching, much of the above material should be taught incidentally, not in organized segments as at present, but as it is encountered in the course of read-

ing. This calls for a radical change in the character of the texts to be used, a change which is seen in the books published recently.

By the end of the second year the following ground should have been covered:

a. Forms and inflections. The Article: its forms both definite and indefinite and the contractions; in French with *á* and *de,* in Spanish with *a* and *de.*

Nouns: the regular plurals, and gender (learned by association with the article).

Pronouns: personal used as subject, direct and indirect object; demonstratives, simple relatives and interrogatives, possessives, and pronouns peculiar to the individual language, such as, in French, *en* and *y;* in Spanish, *lo, conmigo,* etc.

Adjectives: the regular forms of the feminine and plural of descriptive adjectives, the demonstratives, possessives (in Spanish also the forms used to avoid ambiguity), interrogatives, cardinals from 1 to 100, the ordinals from 1st to 10th, comparative forms, and the simpler forms of adjectives peculiar to each language. In German, of course, the strong and weak declensions must be considered.[17]

Verbs: regular verbs in the indicative, affirmatively, negatively, and interrogatively; the conjugation in the indicative tenses of "to be" and "to have"; the imperatives in the second plural, affirmative and negative; the use of progressive and emphatic tenses; the principal parts, the present and past participles of regular verbs; the ten or fifteen most common irregular verbs in the indicative, such as the equivalents of *go, come, have, be, say, do, be able, place, see, wish,* etc.

b. Syntax. The work in syntax should follow the forms and inflections taught. Agreements should be carefully

[17] L. O. Lohstoeter, *Modern Language Journal,* Vol. 11, March, 1927, pp. 359-364 (Hints on teaching German nouns to beginners).

taught and drilled upon, including those of articles, adjectives, pronoun and verb, and the participle as an adjective. Prepositional uses should be stressed, especially those foreign to English usage involving contractions. Word order is important and should include at least the position of adjectives, pronouns, and positions in interrogative and negative sentences. As there are many syntactical points which are essentially idiomatic, these earlier years are the best in which to implant the idea once for all that languages are not mere collections of isolated words but are rather collections of thought groups, and that the essence of a language consists of the ways in which these thought groups are expressed.[18] For example, English says "I am cold" where French and Spanish say "I have cold." Learning these distinctions in the early part of the course and forming habits of thinking in terms of ideas rather than isolated words literally translated will make for infinitely faster progress in later years. In German, since it is an inflected language, much more time must be spent in drill and practice of these unfamiliar methods of expressing thought and in the position of the words.

c. Pronunciation. There should be constant drill, partly in the form of dictation, partly by a judicious use of phonetic symbols. At first only a few sentences can be dictated, and these should always be based upon familiar material, but more may be added gradually. Songs, games, and chorus work are especially valuable aids during this period with younger children. Imitation will be natural; hence teachers must be especially careful to enunciate properly, though the sounds may be fixed by phonetics if so desired.

d. Oral work. The grammatical practice should naturally be in this form, both because of the interest aroused

[18] M. W. Coates, "Making Our Students Suspicious," *Modern Language Journal*, Vol. 7, November, 1922, pp. 99-103.

by the feeling of mastery imparted, and because of its value in pronunciation. Modes of greeting and taking leave may be taught, and expressions of courtesy, time, and dates are natural points to be learned. Frequent repetition of foreign sentences spoken by the teacher, questions and answers on the text, descriptions of objects in the classroom, and simple conversation may be used naturally and as a part of a game rather than as tasks.

e. Reading. There are two sorts of reading possible, both of which should be used; "close" reading as described by Robert [19] as an aid in fixing grammatical forms and securing a "feel for the language"; and more extensive reading of easy material for rapid comprehension. If, as Bobbitt claims,[20] reading is the only practical result of foreign language study, a child should read foreign literature as he does English, rapidly and for pleasure. The amount to be read will be governed by the aim of the course and the method of instruction used; thirty pages for "close" reading and 150 for rapid may be considered as a minimum.

f. Vocabulary. A good informal active vocabulary will be gained incidentally in connection with the oral class work. Formal learning of a vocabulary, if attempted at all, should be woven into the dictation and oral drill and chosen from the five or six hundred words most common in English and the foreign language. In French, Henmon's list,[21] based on an actual frequency count of 400,000 running words of French, is invaluable for reading purposes. This has been compared with the Thorndike and Horn lists in English and the results published. In

[19] O. T. Robert, *Le Trésor du Vieux Seigneur* (published by the author, Northampton, Massachusetts, 1925), Introduction.

[20] Franklin Bobbitt, *How to Make a Curriculum* (Houghton Mifflin Co., 1924), Ch. xvii.

[21] For information about these lists see under *Methods*, pp. 204-205.

Spanish and German various word counts have been made. Every effort should be made to transform the passive reading vocabulary into an active one by informal appeal to all the senses.

g. Memory Work. A valuable aid to interest in the pronunciation and understanding of a language is the memorization of proverbs [22] and short selections of prose and poetry. This work is especially valuable in teaching the proper liaison and intonation of the foreign language.

2. *Suggested sequence for senior high-school course. a.* First Year. The work of the first year should, for beginning pupils, be as outlined in the complete junior high-school course. As the students are somewhat older, they should be able to do the work in a shorter time. Then, too, the exploratory feature of the junior high school is not operative; one should assume that the students have decided that they want the course and that the course is vital enough to them to warrant the expenditure of the time needed.

b. Second Year. In any language there can be no lessening of the effort to acquire a correct pronunciation of sound and phrase. The vowel and consonant sounds peculiar to each language should be mastered and some attention given to intonation in statements and questions. This may well be done by oral practice in larger phrase units along with frequent dictation. Since this furnishes a useful method of drill in grammar as well as pronunciation, it should not be isolated from the rest of the course but each part should reënforce the others. Practice in changing the tense and voice of verbs and the number of nouns and pronouns are devices which serve the double purpose. Toward the end of the year dictation of unfamiliar material may be introduced.

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[22] Durbin Rowland, "Proverbs in Beginners' Classes," *Modern Language Journal*, Vol. 11, November, 1926, pp. 89-91.

In grammar the first half of the year may well be spent continuing the type and material of previous work. The students will come with varying degrees of preparation and their work will need integration. In the second half of the year the grammatical knowledge gained should be analyzed, enlarged upon, and brought together in an organized form. There should be drill upon the commoner uses of the subjunctive, the remaining irregular verbs, impersonal verbs, adjectives and pronouns not hitherto studied, conditional sentences, adverbs, peculiar uses of prepositions, and the reflexive verb. Peculiarities of the various languages should be stressed. In Spanish, for example, attention should be directed to such matters as radical changing and orthographic changing verbs, peculiar subjunctive and pronominal uses, and contrary to fact conditions in present and past time. In German there should be particular drill upon declension and conjugation.

"Close" or intensive reading during the second year should enlarge the vocabulary by word study, synonyms, antonyms, derivations, etc., and build up a practical phrase vocabulary [23] based on a minimum of forty to fifty pages. In addition to this a minimum of 250 pages should be read as extensive reading if the essential aim is a reading knowledge.

In writing as in reading the amount to be done will depend on the aims of the course. If the majority of the students are to drop the language at the end of the second year, less emphasis will be placed upon writing the foreign language and more upon additional reading and information about the foreign country. For those students who intend to continue the study there should be more written work with a corresponding decrease in reading except at sight. Part of the work may be on short isolated sentences

[23] Robert, *op. cit.*, Introduction; see also *Modern Language Journal*, Vol. 11, March, 1927, pp. 383-385.

to emphasize grammatical constructions, but the most emphasis should be upon writing connected sentences or themes based upon familiar experiences or objects of everyday interest.

The Henmon and other word lists can be used as a basis for vocabulary building, and other words taught as the need for them arises. It is highly important that the words in the vocabulary be absorbed as thought groups and that the student use the correct foreign turn of expression rather than simply turn his thought into the foreign language word for word. Equal care must be taken lest too great an emphasis upon exactness in grammatical forms kill interest and spontaneity.

At the end of the two-year course, therefore, when the vast majority of students end their study of the language, they should be able to read at sight simple, everyday prose understandingly, pass a simple aural and oral test, write in fairly correct foreign idiom on simple topics, have some knowledge of the foreign land and its people and be able to pass satisfactorily a standard examination such as that of the New York Regents or the College Entrance Examination Board.

c. Third Year. What has been learned in pronunciation cannot be allowed to slip away. The foreign language should be used as much as possible in the classroom; there will be less difficulty than before as the poorer students will have dropped out. Oral practice on simple statements, questions, etc., will be stressed, and the desire of the students to express themselves in the foreign language encouraged.

During the first two years the student is supposed to have acquired facility in the tools of the language. The work of the third year will consist of the fixation of these simpler grammatical principles as automatic responses by review and their amplification into a more logical form of

organized grammar. A more complete study of idioms; of the uses and position of adjectives and adverbs; all pronouns; all regular conjugations, regular and irregular, at least as part of the passive vocabulary; the noun with its articles, definite and indefinite; the use of tenses; the use of the subjunctives; the conditional; the infinitive uses with and without a preceding preposition; participial constructions; and the use of auxiliaries.

A minimum of seventy-five pages of connected prose should be studied intensively for "close" reading of the sort described under the reading for the second year. For extensive or sight reading the minimum should be 500 pages. Editions with the vocabulary in the foreign language are eminently suitable at this point.

Writing during the third year should increase the pupil's ability to express himself spontaneously in the foreign language. Some work, written and oral, should help fix grammatical points, but the great majority should be "free composition," written reports of reading, or connected set prose. The great objective again is the use of the French, German, or Spanish idiom, and not merely word-for-word translation.

By the end of the third year the student should be able to read comprehendingly at sight French, German, or Spanish prose and poetry of ordinary difficulty, to put into the foreign language a connected passage of simple English; to answer any grammatical questions relating to the usual forms and essential principles of the language; and to translate and explain a passage of standard literature taken from some text previously studied.

d. Fourth Year. There should be review and additional study of the elements of pronunciation, sound units and their orthography, syllabification and liaison in French, and phrase intonation. There should be also additional sight and prepared reading for pronunciation with careful

attention to the characteristics of the spoken language. Much oral work will be demanded, and the use of the vernacular will be increasingly infrequent, confined to technical explanations.

The study of grammar must be continued as needed to avoid the weakening of knowledge already gained. A more comprehensive treatise may be studied with profit for amplification and review.[24]

The texts read should be representative of the civilization and culture of the country, modern as well as classical. Survey courses are suitable for the work of this year. The amount should be a minimum of a hundred pages for intensive work and 500 pages for more rapid or sight reading. Much of this extensive reading may well be in foreign books without vocabularies to gain practice in the use of a dictionary.

The written work here can well be connected intimately with the reading and review grammar and be in the form of short formal compositions, outlines and synopses of texts read, and topics studied outside. Practice in letter-writing is valuable and should be encouraged.

That the amount suggested for reading is not excessive, especially in view of the modern trend, may be seen by the surveys made by Van Horne in 1923 of the amounts of reading done in secondary schools in French and Spanish.[25] In first-year French the general average of pages read in

[24] Suitable advanced grammars are, in French, C. M. Marchand's *Advanced French Grammar* (Brentano, 1923) or A. H. Edgren's *A Compendious French Grammar* (Heath, 1899). In Spanish, M. M. Ramsay's *Spanish Grammar* (Henry Holt and Co., 1902). In German two satisfactory grammars are *A Modern German Grammar*, by Hagboldt and Kaufman (University of Chicago Press), or Prokosch and Morgan, *Introduction to German* (Henry Holt & Co.).

[25] John Van Horne, "French Reading in Secondary Schools, 1918-1923," *Modern Language Journal*, Vol. 8, March, 1924, pp. 363-368; "Spanish Reading in Secondary Schools, 1918-1923," *Modern Language Journal*, Vol. 8, April, 1924, pp. 399-403.

forty-eight schools was 165 pages, with five of the schools reading more than 300 pages. In second-year French in forty-six schools the average number of pages read was 347, of which 283 pages were read in class. Nineteen schools reported outside reading averaging 121 pages. Twelve of these second-year classes read more than 400 pages. In the third year in forty-one schools the average was 528 pages of which 405 were read in class. Twenty-one schools averaged 240 pages of outside reading.

In Spanish in thirty-nine schools the average number of pages read in the first year was 93. In the second year it was 224, with eight schools reporting more than 300 pages. In the third year the average in twenty-nine schools was 335 pages with six schools reading more than 400 pages.

No such list is available in German though an article by Wadepuhl [26] concerning elementary reading in the colleges seems to indicate that the average is smaller than in either French or Spanish in the elementary course.

Both Van Horne and Wadepuhl give lists showing the most frequently used texts and grammars in the three languages. They are not reproduced here for two reasons: first, they are now four or five years old and do not include the books appearing since which, on the whole, are better adapted to the various classes; and, secondly, because the recent progress in analyzing textbook difficulty on the basis of difficulty of vocabulary has made current practice an undesirable basis of selection.[27]

Methods of teaching languages and literature. 1. *Criteria for selecting methods.* Before deciding upon a specific method to be used a supervisor will necessarily take

[26] Walter Wadepuhl, "Elementary German in the Colleges," *Modern Language Journal*, Vol. 9, May, 1925, pp. 469-482. See also J. A. Hess, "German Reading in Elementary Courses," *Modern Language Journal*, Vol. 10, March, 1926, pp. 337-344.

[27] See page 218.

into consideration the aims of his course as determined by the pupils in the school and the teachers at his disposal. All the aims commonly accepted are desirable—ability to read the foreign language, to understand it when spoken, to write it, and to speak it—but all are not equally attainable. Especially is this true in the two-year course. For such pupils the main stress should be placed on a facility in reading with as much informational work as possible to give an insight into the customs, thought, and aspirations of the people whose language is being studied. For pupils who expect to use the language vocationally, ability in speaking and writing will be paramount and general informational matter incidental. For those continuing their education, in consideration of the fact that they will eventually have a very broad acquaintance with the language, special care must be given to a solid foundation in both the oral and written work; much can be expected of them, since they can eventually attain a more or less complete mastery of the language.[28] Since it is impossible to forecast the future of each pupil, some attention must be given to all four aims in a two-year course, but recent opinion stresses the ability to read as the most important. Herein lies the justification for the present emphasis upon the teaching of foreign literature and not merely foreign language.

A method of teaching commonly used in all but the best high schools is that of grammar-translation. It is too well known to require description other than to point out the fact that it uses the vernacular as an intermediary. Since 1910 there has been a great movement toward the use of the "direct method," emphasizing above all else oral reproduction and the inductive approach to a thorough

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[28] A. S. Patterson, "Meditations on Methodology," *Modern Language Journal*, Vol. 11, March, 1927, pp. 365-375.

knowledge of grammar on the theory that all new linguistic phenomena must be worked over orally and be freely used by learners in speaking and writing. If ability to read fluently is to be the aim, neither of these methods is suitable. Buswell's study [29] presents factual evidence to show that students taught by a method which directly associates the foreign symbols with their meaning without the intermediary use of the vernacular attain in two years' study those fundamental habits which are characteristic of a person who reads. Those who are taught in other ways do not exhibit these characteristics. Therefore, this larger conception of the direct method, without the emphasis on oral work, is the one to use.

Where the primary aim of instruction is an ability other than reading, the best method of procedure at the present time is a combination of the best features of all methods—an eclectic method built upon a solid foundation of psychological principles and evolved in the light of the teacher's personal knowledge and characteristics, together with a due regard for the capacities and needs of the pupils and a proper consideration of the amount of time at his disposal. Such a course in the junior high school would be largely direct in the older conception of the term, but with the more mature beginners would be less so. A fundamental principle applying to all methods is that the teacher must, at all times, be intelligible to his pupils. Hence, English should be used when exact statements are necessary in the teaching of grammatical facts and where valuable time would be lost in attempting explanations in the foreign tongue. Possibly the best summary of methodology that has appeared in print is as follows: [30]

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[29] G. T. Buswell, *A Laboratory Study of the Reading of Modern Foreign Languages* (Macmillan Co., 1927), pp. v-vi and 93-94.

[30] C. H. Judd, *Psychology of High School Subjects* (Ginn & Co., 1915), pp. 244-245.

Our psychological analysis makes it easy to understand the school situation as it confronts us to-day. Those who would teach students to master a language and have much time for instruction tend toward the direct method. Those who are interested in the scientific study of language emphasize analytical discussions and are skeptical of the direct method. Whenever mature students are involved, the direct method tends to give way to some form of the analytical method. Analytical methods in one sphere, as, for example, in pronunciation, are at times combined with direct methods in other spheres, as in the interpretation of words. . . . On the administrative side, pressure becomes more intense to reduce the amount of time given to language courses and to increase the value to the student of what he takes even if he remains in the course only one year. . . . Just at what point the direct method should diminish and the analytical method increase is with us a most urgent problem, as yet, an unsolved problem. . . . We are all much in the position of the Committee of Twelve, we praise the direct method and follow the analytical method, with strong leanings toward the grammatical method.

In reading the vast amount of recent literature on the subject one is impressed by the number of dogmatic statements made which are neither impartial, objective, precise, nor verifiable by competent observers. In other words, they represent mere opinion, opinion of experts, it is true, but based, so far as evidence is given, on impression and prejudice.[31] In deciding upon a selection between different features of the various methods, it seems wise to ascertain what proved facts psychology has to offer, and to check our practices by these, keeping in mind at all times, however, that the primary aim of our instruction in the vast majority of cases is reading and that one learns to read by reading. A list follows presented by Handschin in his *Methods of Teaching Modern Languages*[32] which he considers as sufficiently established to warrant their use.

[31] Dorothy Schons, "Oral Spanish," *Hispania*, Vol. 4, May, 1921, pp. 127-129. (An excellent example of reasoning based on scientific evidence.)

[32] C. H. Handschin, *op. cit.*, pp. 45 *ff.*

1. If the fourfold learning of language is to be accomplished, the first approach should be aural, the second oral.

2. Modern language study serves skill in motor control (speaking and writing) and in visual and aural perception and discipline in good habits of study.

3. There must be conscious memorial activity; matter which must be retained must be repeated; rhythmical form and recurrence favor retention; attention is an important factor in memorial activity and attention depends on interest; the feelings (of pleasure and pain and the emotions in general) also play a great part in memorial activity and the feelings manifest themselves in the form of interest.

4. The memory for objects and movements is greater than for verbal impressions.

5. Auditory material must be repeated several times slowly, especially for the benefit of visual types.

6. The ability to recall the vernacular word on presentation of the foreign word (translation from the foreign language) is much greater (two or three times as great) than the ability to recall the foreign word upon presentation of the vernacular (translation into the foreign language). *For adults,* both foreign word-native word and native word-foreign word learning are superior to teaching foreign words by means of pictures in point of easiest and surest retention, of fatigue, of most ready reproduction, and of dependence upon form of learning.

7. The object-foreign word method of learning is superior to the native word-foreign word and foreign word-native word method in point of immediate as well as permanent retention.

8. Learning words in sentences is easier for immediate or deferred recall than learning isolated words. It depends upon the nature of the tests (uses to which knowledge is put) as to which method of presentation is best employed.

9. The reading method is superior to the grammar-translation method for assimilating reading texts as well as for assimilating grammatical material.

10. The study of foreign languages materially increases the student's knowledge of English grammar, but only slightly increases his ability to use English correctly. Training in foreign languages seems to have produced a distinct effect in greater fluency of words in writing and in more rapid perception of words in reading.

11. Transfer of training in grammar study from the study of one language to that of another seems probable.
12. Errors once committed are difficult to eradicate.

2. *Differentiation of methods for varying groups of pupils.* As will be seen by a careful examination of the sequences suggested for various years, if the language can be begun in the junior high school, the writer favors a general introductory course especially as regards the attack from the strictly grammar point of view, but containing much information about language and the specific language to be studied. The junior high-school work is exploratory in character, a time for vicarious experiences of all sorts, and contact with languages may prove a valuable means for a proper selection of language pupils. What actual language instruction is given will contain little formal grammar except for the organization of matter learned inductively. The attack is largely oral and aural with much visual imagery connected with concrete objects and acts.

At this age children have not formed the inhibitions which militate against the use of direct associational processes, and the course is long enough and proceeds slowly enough so that an appeal to the sense organs is eminently practical. Following this course students will articulate in the second year of high-school work with pupils who begin in the ninth grade. For the latter a modification of the direct method seems desirable both from the point of economy of time and because of their greater familiarity with their own language. Judd [33] calls attention to two factors in this connection: first, that every mental process involves some analysis, the amount varying with the previous experience of the learner so that the older a pupil is the more inclined he is to view new material in the light

[33] Judd, *op. cit.*, pp. 219, 220, and 235.

of the more familiar, and, second, that the school can, through instruction in foreign languages, assist in developing them as an instrument of thought.[34] As a general principle it is assumed that the method will vary with the maturity of pupils; with younger pupils the direct method will be used, with the more mature an eclectic or reading method such as has been developed at the University of Chicago.[35]

It is highly important, also, that the method selected should correspond to the aim of the majority of the pupils. In the ordinary class whose members will not continue to study a language more than two years the aim of instruction should be reading as has been suggested. Yet in such a class there will be some pupils who may be reasonably expected to continue the study and whose course should be broader. The school has not done its duty by this minority unless it recognizes their needs. This calls for a careful diagnosis of the probable future intention of each member of the class and a provision for their differences by some form of individualized instruction. One method of doing this is by means of differentiated assignments.[36]

Churchman [37] states that we should try to meet individual inclinations, provided there is an irreducible minimum of essential work of all sorts which each student must

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[34] For a fuller discussion of this see A. J. Inglis, *Principles of Secondary Education* (Houghton Mifflin Co., 1918), pp. 429-433.

[35] O. F. Bond, "Reading for Language Power," *Modern Language Journal*, Vol. 10, April, 1926, pp. 416-426. Bond's ideas as to reading are discussed by critics in *Modern Language Journal*, Vol. 11, March, 1927, pp. 395-403, and Vol. 12, October, 1927, pp. 40-41.

[36] For a discussion of differentiated assignments in the modern language field see H. L. Miller and Dorothy Johnson, "Directing Study for Mastery," *School Review*, Vol. 30, December, 1922, pp. 777-786.

[37] P. H. Churchman, "Readers, Writers, and Oralists. A Problem in Specialization," *Modern Language Journal*, Vol. 8, March, 1924, pp. 345-351.

accomplish, and provided the substitutions are not simply an easy way out for shirkers. He suggests that after a semester of foundation work the members of the class be given an opportunity to choose, along with a certain core of work required of all, whether they wish to specialize in reading, speaking, or writing. Space prevents the presentation of his plan in detail, but it should not be overlooked by the teacher of a single class who wishes to differentiate to better meet the needs of her pupils.

Methods for different aspects of language study. It may be well to discuss methods in more detail as to pronunciation, oral work, vocabulary, reading, grammar, and writing. A few general guiding principles have already been stated in the discussion of the sequence of courses; it is proposed now to elaborate these principles somewhat in detail.

a. Pronunciation. The acquisition of a good pronunciation is important, though not all-important, if the ability to read is the primary objective. The so-called phonetic method relies mainly on oral instruction, using the foreign language itself as a means of communication. It begins with a training of the ear and vocal organs, with thorough drill in the vowels and consonants of the strange tongue, and using objects, pictures, and other realia to give a foreign atmosphere. So far the method is excellent and should be followed in any course. It involves, however, the use of a special apparatus, the phonetic alphabet, and requires special preparation on the part of the teacher. In many cases, also, it involves the use of a text printed in phonetic characters. Here is the point of divergence. Many teachers secure excellent results by the method, but it is one directed toward the ability to use the language in speaking rather than in reading. The doubtful value of this in the life of the average person has been mentioned. It seems wiser to use phonetics as a valuable aid in secur-

ing a good pronunciation, but not run the risk of attempting too much in an elementary course.

The learning of pronunciation is largely of the type of learning known as motor control, involving as stated in Chapter I, a crisis which, in turn leads the pupil to a readjustment of his resources so that he can employ a new skill in various situations as occasions demand. Trial and error play an important part in such learning as do the psychological principles of practice and drill. It is claimed, probably with reason, that imitation should not be used in teaching a modern language, but that referring the sounds to definite symbols is proper. If the objection to imitation is based on the fact that few teachers have a good pronunciation, it may be met by the fact that accurate phonographic records [38] are now available and that certain radio stations give excellent lessons in pronunciation. At the same time phonetics is an extremely useful aid provided there is no science of phonetics for the student, but the frequent use of the practical application of its laws by the teacher.[39] Since pronunciation is a motor reaction, there is need, in the early stages, as in learning to play a musical instrument, for much practice both at home and at school to make the responses automatic and, in the later stages, to preserve them. It is not recommended that approximations to English sounds be given but rather that the actual foreign sound be taught either by imitation or by the phonetic method. It seems wiser to introduce the sounds gradually, at first without the phonetic chart, though authorities disagree in this matter as they do in the question of

[38] C. C. Clarke, "The Phonograph in Modern Language Teaching," *Modern Language Journal*, Vol. 3, December, 1918, pp. 116-122. Phonographic records may be obtained from the Students' Educational Records, Inc., Lakewood, New Jersey.

[39] C. F. Sparkman, "Value of Phonetics in Teaching a Foreign Language," *Modern Language Journal*, Vol. 10, January, 1926, pp. 227-236.

whether the easier or harder sounds should be introduced first.

At the end of a two-year course it is sufficient if the pupil can pronounce words and sentences of average difficulty with reasonable attention to liaison and intonation without insisting upon that complete accuracy which would be a proper objective for a course whose main objective is conversational ability. Naturally in the more advanced courses more will be done.

b. Oral work. Enough has been said in syllabi and in connection with pronunciation to make it appear that oral work plays an important part in modern language instruction. It is the *sine qua non* of the direct method and is used largely in the eclectic. In a course in which the primary aim is gaining the ability to read, it is necessary, since along with the reading, the students must to some degree become articulate, and because psychology has shown that the aural and oral approach is as important as the visual. A review of the psychological principles enunciated by Handschin and an examination of the best articles on teaching show the importance of this oral work in the automatizing of responses necessary in learning a language.

Fluent speaking is not so much the aim of such work, though it may result, as to give the correct start in speaking, an ability to understand the spoken language, and, above all, training and practice in that association of symbols and meaning which is necessary for reading as well as all other abilities. In the junior high school the work is largely based on objects in the classroom, actions, persons, and the common real experiences of everyday life. Judd [40] has pointed out, however, that a generalization such as the statement that words should be associated with objects must be carefully analyzed in all its implications

[40] Judd, *op. cit.*, pp. 226-234.

before being accepted in every case, because children do not always make the same reaction to the same objects. All sorts of realia are becoming increasingly available and more widely used.[41] Vicarious experiences may be furnished by easy texts, and from different kinds of presentations and experiences simple questions and answers may be given. Newspapers in the foreign language are a valuable means of stimulating interest, offering material for oral work as well as furnishing information about the foreign country.[42] In addition to questions and answers, oral work may take the form of changing persons or tenses, and a Gouin series is always available. Such expedients as teaching numbers by the multiplication table, learning songs, and dramatizing material read are especially valuable in the work with younger children. Handschin gives a long list of devices, and others will be found in the bibliography of this chapter.[43]

In the later years the value of oral work is greatest in yielding an ability to speak the language. The pupils are older and the preceding work should have laid a good foundation for a speaking knowledge. After the second year's work, when the incompetent and uninterested have dropped out, there is opportunity for progress along all four aims of foreign language study. Except for tech-

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[41] "Report of a Committee on Realia," *Hispania*, Vol. 5, March, 1922, p. 96. Doubleday, Doran & Co., Garden City, New York, have completed a list *Realia for Modern Language Instruction*, price ten cents. For other suggestions see bibliography at end of chapter.

[42] Possibilities for the use of foreign newspapers would include the use of such publications as *El Eco* in Spanish and *Le Petit Journal* in French (Doubleday, Doran & Co.), *L'Etudient Français*, and *El Estudiante de Español* (J. E. DeMier Publishing Co., 2 Duane St., New York City), and *Das Deutsche Echo* (B. Westermann Co., 13 West 46th St., New York City).

[43] P. H. Churchman, "Making Oral Work Count," *Modern Language Journal*, Vol. 6, May, 1922, pp. 441-445, and G. M. Kelly, "French Conversation Classes at White Plains," *Modern Language Journal*, Vol. 11, December, 1926, pp. 142-149.

nical explanations or definite work in translation into English, the work should be largely in the foreign language.

c. Vocabulary. Regardless of the primary aim of instruction, the acquisition of an adequate vocabulary must be the basis of the elementary work. The mental activity consists of building up and automatizing innumerable connections between the English symbols and foreign symbols or between objects or actions and foreign words. The psychological axioms already stated and the discussion of oral work give us the method of approach, but there is one important addition to be made; words are most economically learned by impressions in sentences, not as isolated entities. In the case of younger children associations can be made almost directly, but with adults the English symbols already acquired tend to interpose themselves. In any case the aim is to obtain as soon as possible the direct connection between the meaning and the foreign expression without the intermediate step of vernacular translation.

In the ordinary secondary-school course, however, there is another important consideration—just what words shall be learned. For many years this was mere guess work, but recently a scientific approach to a proper reading vocabulary has been made by counting the frequency of occurrence of words in standard foreign writings—books, newspapers, periodicals, and letters. The most complete is Buchanan's [44] in Spanish based on a total of 1,200,000 running words. Henmon's [45] count in French, the pioneer work of its kind in the modern language field, is now being extended to include over a million words. These two, to-

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[44] M. A. Buchanan, *A Graded Spanish Word Book* (University of Toronto Press, 1927).

[45] V. A. C. Henmon, *A French Word Book Based on a Count of 400,000 Running Words* (University of Wisconsin, Bureau of Educational Research Bulletin No. 3). For a criticism of word counts see L. M. Gay, "Reflections on the Henmon Word Book," *Modern Language Journal*, Vol. 12, February, 1928, pp. 365-369.

gether with one in German, have been carried on under the auspices of the *Modern Foreign Language Study*. Other counts [46] have been made, some of words in foreign publications, others of words in textbooks, the last type, of course, being open to the objection that the original choice of words was based upon opinion. Similar counts have been made in English, and as these in the foreign languages are completed, it will be possible to secure an accurate knowledge of the most frequently occurring words common to English and the foreign languages. One such list is already available.[47] As new textbooks are written, one source of confusion, that of the widely varying vocabularies in different first-year grammars and composition books, will be obviated.

The word counts are of isolated words, and words as entities have limited value; a true command of a language is hardly possible unless one can grasp groups of words—idioms. We express or understand thought in words, it is true, but seldom by isolated words; they must be grouped in phrases or sentences. The *Study* is supplying this need by making frequency counts of idioms.[48]

Another important consideration is that of "passive" and "active" vocabularies. The former merely involves recognition; the latter means that the connection estab-

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[46] Eustace Broom, and M. E. Contreras, "A Background Vocabulary List in Spanish," *Modern Language Journal*, Vol. 11; April, 1927, pp. 459-463. See also E. I. Jamieson, "A Standardized Vocabulary for Elementary Spanish," *Modern Language Journal*, Vol. 8, March, 1924, pp. 325-333; B. Q. Morgan, "The Chicago M. L. T. Adopt a German Vocabulary," *Modern Language Journal*, Vol. 9, April, 1925, pp. 423-430, and Walter Wadepuhl, "A Standardized Vocabulary for Elementary German," *Modern Language Journal*, Vol. 8, October, 1923, pp. 23-30; B. Q. Morgan, *German Frequency Word Book* (Macmillan Co., 1928).

[47] C. F. Ward, *Mininum French Vocabulary Test Book* (Macmillan Co., 1926).

[48] *Cf.* also L. A. Wilkins, *French Word and Idiom Lists* (Doubleday, Doran & Co., 1925).

lished is so direct that the word can be used in speaking or writing. In a reading course the "passive" vocabulary is the more important yet we must secure the active sort to serve as a foundation for the other aims of foreign language study. The same distinction, of course, exists in English, and we can scarcely expect a pupil's "active" vocabulary in the foreign language to exceed that in the vernacular. To change the "passive" vocabulary to the active form is an underlying purpose of oral work, of reviews, of working the material over and over in class, and it may be based on a selected number of words from a word list or on the intensive reading; incidentally it may have a most broadening effect on the English vocabulary. To develop the "passive" vocabulary we have extensive reading; the tragedy of it all is that the majority of students leave the language just as they have acquired sufficient knowledge to make its future study more pleasurable.

With the development of word lists has come a number of standardized tests measuring rather accurately this phase of teaching. The *Study* has prepared such vocabulary tests [49] to supplement earlier ones by Handschin and Henmon; norms are available for students in different years of the work, and they furnish a reliable indication of progress. Once given, remedial measures can be applied by the intensive use of the devices mentioned or described by various writers.[50]

d. Reading. Two sorts of reading are recommended, extensive and intensive. The intensive may be further subdivided into that described by Handschin,[51] and that out-

[49] *The American Council Vocabulary Tests in French, German, and Spanish* (World Book Co.).

[50] A. G. Bovée, "Teaching Vocabulary by the Direct Method," *Modern Language Journal*, Vol. 4, November, 1919, pp. 63-72 (French). See also J. C. Weigel, "Acquisition of a Vocabulary," *Modern Language Journal*, Vol. 3, May, 1919, pp. 339-360 (German).

[51] Handschin, *op. cit.*, Ch. vii.

lined by Robert.[52] The aim of the former is, primarily, to acquire an "active" and "passive" vocabulary, together with a training in analysis and, ultimately, to get a knowledge of the foreign civilization, its institutions, customs, and ideals by means of the foreign language. The method requires much oral work based on the text. The author gives in detail the steps: create an interest in the work, clear away the difficulties, lay out clearly the work to be done, and show by examples how the various kinds of exercises are to be handled. Robert's book may, the author says, be described as a grammar in which grammatical forms and functions are presented as expressions of meanings. For both types of intensive reading, the purpose is to give an opportunity for practice in the association of symbols and meaning, but where Handschin stresses the oral side, Robert emphasizes written work, particularly in the second year.

Hagboldt,[53] using certain features of both methods, lists nine practices helpful in conducting an effective reading lesson of the intensive variety. The names applied to the practices in most cases indicate the type of work to be done. His list follows:

1. Reading for pronunciation, intonation, and fluency.
2. Reading to practice inference.
3. Intensive reading for exhaustive grammatical analysis.
4. Reading for vocabulary expansion by means of induction.
5. Reading to practice free translation into good, literary English.
6. Reading for literal translation with the sole purpose of demonstrating quickly that all the details have been properly understood.
7. Reading for aural and oral practice.

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[52] O. T. Robert, *Le Trésor du Vieux Seigneur* (Introduction).

[53] Peter Hagboldt, "Making the Reading Lesson Effective," *Modern Language Journal*, Vol. 11, December, 1926, pp. 129-132.

8. Rapid silent reading in class as a sort of general test of the students' reading ability.

9. Read and translate as a sort of comprehensive test on pronunciation and fluency in reading aloud.

Patterson [54] explains a technique of the reading lesson designed to meet the needs of the superior and the inferior pupils in the same class. She points out first that the success of a reading lesson depends upon the preparation that precedes it. As any reading lesson involves a bewildering number of difficulties, the text must be carefully chosen in the light of what has gone before in the way of vocabulary building and grammar. She calls attention to the fact that a reading unit cannot be measured by pages alone, for while in German a unit of two or three pages in *Märchen und Erzählungen* presents a difficulty of about thirty-five words to a student who knows five hundred, a text like *Alle Fünf* has a vocabulary burden of about eighty new words. After a very sensible discussion of the conduct of a reading lesson she concludes that the outstanding differences in the treatment of students of high and low abilities in the language field are about as follows:

Alpha (Superior) *Group*	*Beta* (Inferior) *Group*
1. Do not stress reading in class if advanced.	1. Do not omit reading in class.
2. Dispense with translation.	2. Use translation at the beginning and later for difficult passages.
3. Make the recitations topical.	3. Work gradually to the topical recitation through the question and answer process.
4. Arrange vocabularies for the first year. Later select while reading.	4. Arrange for a year and a half. More vocabu-
5. Give drills between stories or at occasional chapter intervals.	

[54] S. H. Patterson, "The Technique of the Reading Lesson in Modern Languages," *Modern Language Journal*, Vol. 10, December, 1925, pp. 151-158

6. Some supplementary reading. Much sight reading.
7. Aim at power of expression. More varied material. Give attention to content, ethics, facts, etc.

lary drill and motivation.
5. Drills must be shorter and more frequent, more directly based on reading.
6. No supplementary reading. Some sight reading.
7. Aim at language skills. Simple material. Ability to read and understand.

Extensive reading should be enjoyable, removed from too much detail, and should aim not only at the acquisition of a passive vocabulary, but also at a more intimate knowledge of the country. It may be done at sight in class with a number of content questions on the pages read to show how many of the main points of the pages read the student has grasped. It may also be done outside of class by the assignment of easier texts some time before the date due, checked by oral reports to the class, by handing in outlines of the material read, or by written answers to the content as mentioned above. Both methods should be used. The amount assigned for outside reading should be easily three or four times the amount set for intensive and sight reading combined and may be begun reasonably early especially for those who seem fated to drop out. It should be for the purpose of getting the meaning, without too great attention to each word, and may well be varied for individual differences as Patterson has shown. Further studies of the vocabulary content of readers are needed of the sort listed below [55] in order to know the relative difficulty of the texts

[55] C. W. Cartwright, "Study of Vocabularies of Eleven Spanish Grammars and Fifteen Spanish Reading Texts," *Modern Language Journal*, Vol. 10, October, 1925, pp. 1-14; E. F. Dexter, "An Analysis of a First-Year Spanish Vocabulary." *Modern Language Journal*, Vol. 12, January, 1928, pp. 272-278; J. A. Hess, "German Reading in Elementary Classes," *Modern Language Journal*, Vol. 10, March, 1926, pp. 337-344; C. L. Johnson, "Vocabulary Difficulty and Textbook Selection," *Modern Language Journal*, Vol. 11, February, 1927,

to provide outside reading that is not beyond the powers of the ordinary student.

Since the college examinations have largely shaped the kind of reading done, there has been criticism of the amount required.[56] For those students who are going beyond the second year and who must make a more extended preparation in other lines than reading, it may be too large. Even so, a distinction between extensive and intensive reading would make the problem easier. The trouble has been that the examinations have put a premium on exact translation rather than reading for enjoyment—the true aim of reading—and that teachers have quite generally assumed that all reading must be of the intensive variety. In schools where the influence of examinations is less evident, experiments have been made in reading, some of which are listed in the present chapter. Experiments at the college level, but from which hints may be gained for secondary work, are those carried on at the University of Chicago.[57]

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pp. 290-297; Charlotte Morgan, "Vocabulary Analysis of a Second-Year Spanish Text," *Modern Language Journal*, Vol. 10, April, 1926, pp. 427-430; R. W. Pettengill, "Anent the Chicago M. L. T. List," *Modern Language Journal*, Vol. 11, October, 1926, pp. 13-16, and B. D. Wood, "A Comparative Study of the Vocabularies of Sixteen French Textbooks," *Modern Language Journal*, Vol. 11, February, 1927, pp. 263-289.

[56] Edith Johnson, "Plea for the Reduction of the College Entrance Requirement in Spanish," *Hispania*, Vol. 4, March, 1921, pp. 76-79.

[57] Hyman Alpern, "Correlation in the Reading of Spanish," *Modern Language Journal*, Vol. 11, March, 1927, pp. 337-352. For criticism of above see *Modern Language Journal*, Vol. 12, January, 1928, pp. 306-307. See also O. F. Bond, "The Organization and Administration of a First-Year French Course at the College Level," in W. C. Reavis, "Studies in Secondary Education," Vol. 2, *Supplementary Educational Monographs*, February, 1925 (University of Chicago Press), pp. 177-200. See also Peter Hagboldt, "Experimenting with First-Year College German," *Modern Language Journal*, Vol. 9, February, 1925, pp. 293-305; "An Experiment on Reading Known Material in Beginners' Classes," *Modern Language Journal*, Vol. 9, March, 1925, pp. 345-352; "On Inference in Reading," *Modern Language Journal*, Vol. 11, November, 1926, pp. 73-78.

A disputed question in reading is the amount of actual translation to be done. As in so many other cases, it is a question of aims. In a purely college preparatory class headed toward the College Entrance Examination Board questions as at present administered, much will be done. A course aimed at securing as much benefit as possible for the pupil's English will also require the pupil to translate much and carefully, for the ability to make idiomatic translations with the proper flavor of the original requires the most careful discrimination between varying shades of meaning and a meticulous choice of the proper word.[58] Daggett suggests that translation involves three steps,[59] "A," The French sentence read in French; "B" word for word translation into English; and "C" Idiomatic English. The emphasis is on getting idiomatic English from the word for word translation. In reading for power to read or to secure information, however, there will be no direct translation into the vernacular. In the ordinary two-year course there is a limited place for translation as an aid to careful work and for its influence on the study of English, but it should be reduced to a minimum. Clarahan's experiment in Missouri and Cole's in New Jersey showed that with limited numbers of pupils better results were obtained even in translation by less emphasis on exact renditions of the foreign words to English.[60]

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[58] See L. H. Limper, "The Effect of Having Studied a Foreign Language in High School on the Ability of College Freshman to Use English Correctly," *School Review*, Vol. 35, November, 1927, pp. 676-680, and O. H. Werner, "Influence of the Study of Modern Foreign Languages on the Development of Abilities in English," *Modern Language Journal*, Vol. 12, January, 1928, pp. 241-260.

[59] M. C. Daggett, "Translation from French to English by the A B C Method," *Modern Language Journal*, Vol. 11, May, 1927, pp. 513-516.

[60] Clarahan, *An Experimental Study of Methods of Teaching High School German* (Bulletin of University of Missouri, Educational Series, Vol. 1, No. 6, 1913), quoted in Handschin, *op. cit.*, p.

Devices valuable in acquiring a wide knowledge of words and forms other than those mentioned are the use of synonyms and antonyms, association with English cognates, cross-word puzzles, realia, foreign words that have come into English, and, in the more advanced work, methods of word formation by suffixes and prefixes, diminutives, endings of abstractions, etc.

e. Grammar. In the reaction against the older grammar-translation method of teaching it was natural that, for a time, the study of grammar was neglected. The theory underlying the natural method—bringing the student along by easy stages as a child learns language—tended to put the notion of grammar outside the pedagogical pale. The phonetic method assisted. The insistence on the learning of grammar inductively has at times resulted in the learning of little or no grammar. From the point of view of acquiring a reading ability, experimentation has shown that in at least one direct method school the pupils "acquired a considerable body of grammatical knowledge without being taught grammar as grammar."[61] The deciding factor in all cases should be a consideration of the needs of the majority of the class with as much provision for the minority as is possible by ability grouping or varying assignments.

There is, however, another point of view—that there are values in the study of organized grammar beyond its ancillary rôle in reading. Handschin[62] insists that the student must have a systematic knowledge of grammar,

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40. See also R. D. Cole, "Free Composition *vs.* Translation into the Foreign Language in Developing Ability to Write a Foreign Language," *Modern Language Journal*, Vol. 11, January, 1927, pp. 200-206.

[61] A. G. Bovée, "Grammatical Knowledge and Reading Ability in French," *Journal of Educational Research*, Vol. 11, March, 1925, pp. 204-212.

[62] Handschin, *op. cit.*, Ch. ix.

Judd [63] notes that there are reactions on English that are valuable, and Fitzgerald and Nonnez [64] in "A Syllabus for High School Spanish" say that it forms the necessary background of the work in all elementary courses. Bovée, considering the matter solely from the point of view of reading says, "The problem is not a question of grammar or no grammar. It is a question of the most efficient way of studying grammar in order *to promote the acquisition of a good reading knowledge* of French and thus to attain more speedily and effectively the ultimate objective of the study." The fact that there are other possible values and that a foundation, at least, is necessary in even two-year work, inclines most teachers to favor some organized grammar. It may and probably should be taught inductively, but some time in the course, preferably at the end of each semester, the material learned should be systematically organized.

Much that has been contained in these organized systems may, however, well be omitted. What we seek is functional not formal grammar. Scientific studies are needed to determine what portions of the grammar actually function and are, in fact, being made. Robert throws light upon the present neglect of relative values by showing that in certain examinations the student is penalized the same amount irrespective of whether the error is the inability to give the past definite of *cuire* or the misuse of the imperfect tense.[65]

The Syllabus previously mentioned says:

For the grammar work there are . . . two methods. . . . One may adopt a grammar large enough to occupy the entire two

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[63] Judd, *op. cit.*, pp. 219-221.

[64] J. G. Fitzgerald, and Alfred Nonnez, *Modern Language Journal*, Vol. 5, November, 1920, pp. 77-86.

[65] O. T. Robert, "College Entrance Examinations in French," *Modern Language Journal*, Vol. 11, October, 1926, p. 19.

years in going over the ground once. This method your committee does not favor. The other method is to adopt a grammar which will give a skeleton of the entire field in one year. The second year may then be devoted to a review. . . . There are two ways in which this latter plan may be carried out. The first is to take a grammar built on the lines of Edgren's French grammar. . . . Part I gives a skeleton . . . that may be comfortably worked through in one year, but a complete outline of the grammar is presented. Then in Part II . . . that same field is reworked with added details. The other method would be to take a short grammar presenting just enough material for one year's work and then use in the second year some good elementary composition book built systematically to enforce a review of grammar while giving some of the other more important details that have formerly been omitted.[66]

The latter method is the one preferred by the present writer, pending the appearance of newer reading texts which include grammatical material.

f. Writing. Practice in writing the foreign language will not be overstressed in the elementary course for those who are not to continue beyond the second year. It will be conducted as an aid to accuracy, an auxiliary to reading, and as a means of testing the real ability to handle the language. In connection with grammar in the elementary stages short sentences will be used to aid in fixing idiomatic forms and orthography, grammatical material will be copied, or exercises based on the reading text, grammar, or composition book will be written. Dictation may be used from the start and continued as long as the language is studied; first, in the form of very short sentences, followed by familiar grammatical or reading material and progressing to longer unfamiliar material. It should be read slowly and not repeated more than once.[67]

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[66] Fitzgerald and Nonnez, *op. cit.*, p. 80.

[67] Handschin, *op. cit.*, Ch. viii; see also C. E. Leavenworth, "The Dictation Exercise, Its Variations and Values," *Modern Language Journal*, Vol. 10, May, 1926, pp. 483-490.

In the direct method there seems to be a real danger that not enough written work be done. In classes preparing for the present type of college entrance examinations it is highly important that much written drill be given. In certain essentially college-preparatory schools it is felt that practice in writing is so important, in view of the type of question usually asked, that little else is done. Reading ability is expected to come as an inevitable by-product. Without going to this extreme, others consider ability to write the foreign languages most important. Certain it is that in this type of school a study of time-allotments in the various phases of the subject would show that a large proportion of time is given to it. There is a serious danger in many other schools that the shadow may be accepted for the substance and that in the desire to make the foreign language interesting, correctly heard, and pronounced, the necessity of a reasonable amount of absolute accuracy and of hard work will be forgotten.

One reason for neglecting written work is that teachers have large classes and cannot spare the time for careful correction of papers. If assigned, written work most certainly should be corrected; except under the most unusual circumstances it hardly seems fair to accept it, only to throw it away, to say nothing of losing a golden opportunity for drill. Possible economical ways of correction consist of having incorrect work rewritten on the opposite page of a notebook indicating the place and nature of the error and requiring the student to supply the proper forms, or having the work written on the board and requiring the student to correct his own or his neighbor's sentences. Often the aid of the better students may be enlisted. A device which the author has used successfully, especially in the case of indifferent or careless students, is to write in red ink over the error the reference to the place in the grammar where the rule is to be found and to require the

student to copy down the rule and examples. This takes a tremendous amount of time but checks carelessness and inaccuracy.

Teachers vary in opinion as to the amount and kind of written work to be done. There is no necessity for its consisting entirely of disconnected sentences;[68] in the later stages in addition to or as a substitute for the type of sentences so often found in grammars, questions on the reading may be answered in the foreign language, a story may be written from a picture, synopses of texts may be made or letters may be written to each other, to the teacher, or to pupils in foreign countries.[69] Connected discourse should be simple and short with emphasis on fluency rather than on such strict adherence to rule that even the exceptions permitted by the language are not allowed.

The selection and organization of content. In selecting and organizing the content of a course of study the teacher does not always have a free rein, but, within the confines prescribed, there is always an opportunity for considerable individual initiative. Courses should be varied to meet the needs of different localities and of pupils with different future intentions. No teacher should proceed too far, however, on untried paths unless he has the necessary comprehensive knowledge and appreciation of the purposes of secondary education, a knowledge of the traits of secondary school pupils, and a clear notion of the general principles of methodology. All these are necessary to select and organize subject-matter properly. The aims of

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[68] A. J. Dickman, in *Modern Language Journal*, Vol. 12, December, 1927, pp. 180-188, gives some excellent outlines for short compositions in the foreign language.

[69] Address George Peabody College for Teachers for information as to foreign correspondence in French and Spanish. For German see *Modern Language Journal*, Vol. 7, December, 1922, pp. 182-183. See also A. I. Roehm's article in *Modern Language Journal*, Vol. 12, January, 1928, pp. 279-280.

modern language study have already been discussed; it remains to give a summary outline of the remaining factors.

Two of the basic principles of modern curriculum construction are, first, that a consideration of pupil deficiencies serves as a valuable guide to what should be taught, and, second, that the material used by the average person most frequently is that which should be selected for instruction. The latter idea is illustrated by Broussard's[70] analysis of the use of French verb tenses; the former has been unconsciously observed by many teachers in their work, yet until recently few studies have been made available. As a guide to possibilities for individual work in this connection, an article by Warshaw[71] is suggestive. He discusses several natural conditions that cannot be altered and several artificial conditions which are susceptible of improvement. To him, there are five elements which are vital in composition, "five working constants" which must be learned in the beginning and constantly drilled upon as long as the language is studied. They are: (1) position, (2) agreement, (3) gender, (4) mood, and (5) accentuation. There are twenty or thirty troublemakers in any language which are especially prominent, among others, in Spanish, the uses of *ser* and *estar,* the uses of *para* and *por,* and prepositions. Both French and Spanish give ample opportunities for error in the use of the equivalents for *after, at, in, about, by, to,* etc. It is necessary to analyze the errors and especially emphasize from the start those which need attention. The following expressions are others which cause infinite trouble: the foreign expressions for *do, ought, make, become, any, so, may, must, let, get, where, last, would, could, should like, enter, to, next, should, will, to be able, can,*

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[70] J. F. Broussard, "Relative Value of Verb Tenses in French," *Modern Language Journal,* Vol. 7, October, 1922, pp. 37-41.

[71] Jacob Warshaw, "Spanish Composition," *Modern Language Journal,* Vol. 7, October, 1922, pp. 17-25.

leave, it, what, the imperfect and perfect tenses, the progressive and emphatic tenses, the position of pronouns.

If the teacher has any voice in the actual selection of textbooks, great care must be exercised. Publishers issue lists of their texts arranged according to their suitability in the various years. The modern language periodicals contain announcements and reviews of new books. A number of book lists have appeared from time to time.[72] Hitherto such material has been subjective, but of late there has been a tendency to evaluate grammars and reading books on the basis of a comparison with vocabulary studies. Several of these have been mentioned.[73] A teacher cannot afford to ignore such studies or the hints in the next section in his selection of books.

Equipment for teaching modern foreign languages and literature. An excellent method of selecting a grammar has been outlined by Deihl.[74] He holds that the first considerations are the age of the students, the length of the course, and the ability of the teacher. Naturally, one will not choose a book for beginners in which the appeal is chiefly to the analytical and reasoning power; nor for college students, one which is primarily inductive, since presumably they are able to use generalizations. Further-

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[72] In French: John Van Horne, *op. cit.* Also A. G. Bovée and others, *Modern Language Journal*, Vol. 3, February to May, 1919. In Spanish: John Van Horne, "Spanish Reading in Secondary Schools," *Modern Language Journal*, Vol. 8, March, 1924, pp. 399-403. See also "Syllabus Adopted for the High Schools of Chicago," *Hispania*, Vol. 5, October, 1922, pp. 229-238, A. M. Coe and C. Rodríquez-Castellano, "Textbooks for High School and Elementary College Spanish Classes," *Modern Language Journal*, Vol. 10, May, 1926, pp. 467-476, and Cony Sturgis, "The Spanish Textbook," *Modern Language Journal*, Vol. 5, February, 1921, pp. 256-266. In German: Walter Wadepuhl, "Elementary German in the Colleges," *Modern Language Journal*, Vol. 9, May, 1925, pp. 469-481.

[73] See p. 204.

[74] J. H. Deihl, "Choosing a Grammar for Beginners," *Modern Language Journal*, Vol. 2, May, 1918, pp. 368-373.

more, there should be a differentiation between the needs of a four-year high-school course and those of a two-year course. Few or no books are so constructed that they may serve any type of course or any sort of pupil. Next comes the decision as to whether one will use mainly an inductive or a deductive plan of presentation, and careful study of possible books to see whether the purpose as stated in the preface is in reality actually carried out. In case an inductive book is desired, the nature of the illustrative reading material is important; is it enough to obviate the use of other reading material? Is it narrative or descriptive? Does it begin with the vocabulary of everyday life and gradually weave in desirable information about the foreign country? The exercises must be examined critically as to quantity, variety, and possibility of addition or omission. With regard to grammatical statements, do we want them in English or the foreign language, are they concise, are they the sort we wish, introduced in logical order and based on a probable foundation in English? Finally is the vocabulary correct in size and quality, with due regard to the formation of both an active and passive knowledge? Other considerations deal with the possibility of finishing the book within the time allotted, the ease of manipulation, the treatment of pronunciation, the pictures, and the price. Deihl suggests a score-card with an assigned percentage given to all these factors so that an objective rating may be secured.

Holbrook [75] and Sturgis [76] have treated the question of readers. The former calls attention to the fact that frequently portions of the original text are omitted or altered without any statement of the fact. He discusses also the

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[75] R. T. Holbrook, "The Editing of French Texts for Schools and Colleges," *Modern Language Journal*, Vol. 1, October, 1916, pp. 18-32.

[76] Cony Sturgis, "The Spanish Textbook," *Modern Language Journal*, Vol. 5, February, 1921, pp. 256-266.

sort of notes given; non-linguistic, for the proper background, and linguistic to explain the text, and states that too many editors are partial to the former which in many cases may well be omitted, and do not give enough attention to the latter which are essential. Often when linguistic notes do appear, they are simply translations with no attempt to stimulate original thinking by the student or to fix important key idioms in mind. He questions whether all the words used in the text need to be in the vocabulary, and emphasizes the fact that those included should have meanings pertinent to the particular book. Frequently the very words that give the most difficulty are not explained, since their use is idiomatic or irregular; for example, *lui* in such expressions as *lui prenant la main* is not explained, *irai* is not given by itself but under the principal parts of *aller*, etc. He might well have added that the place for notes is at the bottom of the page on which they are needed, not in the back of the book.

Sturgis gives the following points as most important in choosing a Spanish text—they are perfectly applicable to French or German: (1) Read over carefully each text under consideration before making a choice, (2) determine whether the vocabulary is approximately suitable for the grade and class, (3) try to give a variety in the types of books chosen, (4) avoid extremes in any particular period writings, (5) do not use books whose thought is too advanced, (6) if more than one edition of a book is available, choose the one with the best notes, (7) give the student something descriptive about South America (France, Germany) but do not overload the course with books of this type, (8) choose the text for clear idiomatic, real Spanish (French, German) avoiding extreme stylists and careless writers, (9) endeavor to select a book with an intrinsic interest in plot and characters that will make the class want to keep on in order to find out what is going to

happen. Other points worthy of consideration are the desirability of the book in segregated or mixed classes, whether the book is typical of the national life or treats some isolated aspects, and its tone—serious, flippant, or morbid.

Green has published his views on the selection of textbooks.[77] The preface of a book usually states the author's purpose; so the first step in a wise choice is to see whether this purpose is consistently carried out by the method of treatment. He continues by noting the facts mentioned by the other authors quoted but adds one additional criterion —the reputation of the publisher. In considering a basal grammar he suggests a check list under the main headings of: (1) Method, (2) Contents, (3) Organization, (4) Presentation, (5) Adaptability; and the secondary headings of: (1) Authorship, (2) Publisher, (3) Aids for Using the Book, (4) Mechanical Construction.

In the past the selection of modern language textbooks has been largely a hit-or-miss method resting too much on subjective impression. The investigation of aims, the standardization of accepted curricula, and the appearance of vocabulary word counts have led to a more scientific approach. Vocabulary counts of grammars and readers have been mentioned. As frequency counts of syntax and idioms are finished, there will be available certain knowledge as to just which readers should be used in the various years. Such a situation will be a notable step in advance in teaching modern languages.

Fully as important as the choice of textbooks is the provision for a suitable library, either the personal property of the teacher or to be owned by the school. An arbitrary selection as to number cannot well be made—it will

[77] Alexander Green, "The Measurement of Modern Language Books," *Modern Language Journal*, Vol. 10, February, 1926, pp. 259-269.

depend entirely upon circumstances. The following lists are merely suggestive.[78]

French

Dictionaries:

Beaujean, Emile, *Abrégé du dictionnaire de E. Littré* (Hachette) (All French).

Petit Larousse illustré (Heath) (All French).

Hatzfeld, A., Darmesteter, A., and Thomas, A., *Dictionnaire général de la langue française* (Delagrave) (All French).

Michaelis, H., and Passy, P., *Dictionnaire phonétique de la langue française* (Soudier) (Phonetic).

Passy, Paul, and Hempl, George, *Uniform International Dictionary* (Hinds Hayden and Eldrige) (Phonetic, Eng.-Fr., Fr.-Eng.).

Tarif-Album of the Manufacture Française d'Armes et Cycles (St. Etienne, Loire, France). See *Modern Language Journal,* Vol. 6, October, 1921, pp. 16-18. (Newer words for everyday life.)

Grammars:

Coleman, Algernon, *The New Fraser and Squair Complete French Grammar* (Heath).

Armstrong, E. C., *Syntax of the French Verb* (Holt).

Downer, C. A., and Knickerbocker, William, *A First Course in French* (Appleton).

Holbrook, R. T., *Living French* (Ginn).

Grandgent, C. H., *Essentials of French Grammar* (Heath).

Mansion, J. E., *French Reference Grammar* (Heath).

Rippman, Walter, and Buell, W. H., *French Daily Life* (Newson).

Bovée, A. G., *Première Année de français avec notation phonétique* (Ginn). An excellent direct method text.

Edgren, A. H., *A Compendious French Grammar* (Heath).

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[78] P. H. Churchman, "The Teacher and His Books," *Modern Language Journal,* Vol. 7, January, 1923, pp. 205-220, for French and Spanish. See also *Modern Language Journal,* Vol. 10, May, 1926, pp. 467-476, for Spanish. The list in German is furnished by Dr. W. G. Bek, head of the Department of German at the University of North Dakota. All three lists are supplemented by the writer.

Marchand, C. M., *Advanced French Grammar* (Brentano).
Hennequin, Alfred, *French Modal Auxiliaries* (Heath).

PRONUNCIATION:

Rippmann, Walter, *Elements of Phonetics* (Dent).
Geddes, James, *French Pronunciation* (Oxford University Press).
Passy, Paul, *Sons du français* (Soudier).
Ballard, A. W., *Phonetic Reader* (Scribner).
Nyrop, Kristoffer, *Manuel Phonétique du Français Parlé* (Stechert).

HISTORY OF LITERATURE:

Abry, E., Audic, C., and Crouzet, P., *Histoire illustrée de la littérature française* (Didier).
Strachey, G. J., *Landmarks in French Literature* (Holt).
Lanson, Gustave, *Histoire de la littérature française* (Hachette).
Saintsbury, G. E., *Primer of French Literature* (Oxford University Press).
Lalou, René, *Histoire de la littérature française contemporaine* (Crès).
Darmesteter, Arsène, and Hatzfeld, Adolphe, *le Seizième Siècle en France* (Delagrave).
Henning, G. N., *French Lyrics of the XIXth Century* (Ginn).

HISTORY:

Bainville, Jacques, *History of France* (Appleton).
Davis, W. S., *A History of France* (Houghton Mifflin).
Duruy, Victor, *Histoire de France* (Hachette).
Lavisse, Ernest, *Histoire de France* (Hachette).
Kitchin, G. W., *A History of France* (Oxford University Press).

MISCELLANEOUS:

Brownell, W. C., *French Traits* (Scribners).
Guérard, A. L., *French Civilization in the Nineteenth Century* (Century).
Robertson, D. M., *A History of the French Academy* (Dillingham).

Spanish

Dictionaries:

Cuyás, Arturo, *New Spanish-English English-Spanish Dictionary* (revised edition, Appleton).

Lusum, R., *Spanish Commercial Dictionary* (Dutton).

Nuevo diccionario manual ilustrado de la lengua castellana (Calleja Fernández, Madrid).

Pequeño Larousse ilustrado (Heath).

Ponce de Leon, *The Technological Dictionary* (Colonial Publishing Company).

Zerolo, Elías, *Diccionario enciclopédico de la lengua castellana* (Garnier).

Grammars:

Becker, S. C., and Mora, Frederico, *Spanish Idioms* (Ginn).

Bello-Cuervo, R. J., *Gramática de la lengua castellana* (Roger and Chernoviz, Paris).

Janer, Felipe, *Gramática castellana* (Silver Burdette).

Knickerbocker, W. E., *A First Book in Spanish* (Appleton).

Lenz, Rodolfo, *La oración y sus partes* (Publicaciones de la Revista de Filología Española, Madrid).

Lenz, Rodolfo, *Sobre el estudio de los idiomas* (Santiago de Chile).

Ramsay, M. M., *Textbook of Modern Spanish* (Holt).

Pronunciation:

Hanssler, William, and Parmenter, C. E. *Beginner's Spanish* (Scribners).

Moreno-Lacalle, Julian, *Elements of Spanish Pronunciation* (Scribners).

Navarro-Tomás, Tomás, *Manual de pronunciación española* (Revista de Filología Española, Madrid).

Peers, E. A., *Phonetic Spanish Reader* (Longmans Green).

History of Literature:

Clarke, H. B., *Spanish Literature: An Elementary Handbook* (Macmillan).

Coester, A. L., *The Literary History of South America* (Macmillan).

Fitzmaurice-Kelly, James, *History of Spanish Literature* (Appleton).

Ford, J. D. M., *Old Spanish Readings* (Ginn).
Menéndez-Pidal, Ramón, *Antología de prosistas castellanos* (Stechert).
Northup, G. I., *Introduction to Spanish Literature* (University of Chicago Press).

History and Miscellaneous:
Bryce, James, *La América del Sud* (Macmillan).
Chapman, C. E., *A History of Spain* (Macmillan).
Meyer-Lübke, Wilhelm, *Lingüística Romance* (Publicaciones de la Revista de Filología Española, Madrid).
Robertson, W. S., *History of the Latin-American Nations* (Appleton).
Webster, Hutton, *History of Latin America* (Heath).

German

Dictionaries:
Breul, K. H., *German-English Dictionary* (Heath).
Duden, Konrad, *Orthographisches Wörterbuch* (Bibliographisches Institut, Leipsig).
Muret, Eduard, and Sanders, Daniel, *Enzyklopädisches Wörterbuch* (Langenscheidt, Berlin).
James, William, *Dictionary of the English and German Languages* (Macmillan).

Grammars:
Hagboldt, Peter, *Essentials of German Reviewed* (University of Chicago Press).
Hagboldt, Peter, and Kaufmann, F. W., *A Modern German Grammar* (University of Chicago Press).
Prokosch, Eduard, and Morgan, B. Q., *Introduction to German* (Holt).
Thomas, Calvin, *Practical German Grammar* (Holt). For reference.
Zinnecker, W. D., *Deutsch für Anfänger* (Heath).

Pronunciation:
Barker, M. L., *Handbook of German Intonation* (Appleton).
Grandgent, C. H., *German and English Sounds* (Ginn).
Hempl, George, *German Orthography and Phonology* (Ginn).
Viëtor, Wilhelm, *Die Aussprache des Schriftdeutschen* (Reisland, Leipsic).

HISTORY:

Dawson, W. H., *The German Empire, 1867-1914* (Macmillan).

HISTORY OF LITERATURE:

Biese, Alfred, *Deutsche Literaturgeschichte* (Beck, München).
Francke, Kuno, *History of German Literature* (Holt).
Kummer, Friedrich, *Deutsche Literaturgeschichte des 19. und 20. Jahrhunderts* (Reiszner, München).
Robertson, C. G., *History of German Literature* (Putnam).
Thomas, Calvin, *A History of German Literature* (Appleton).

MISCELLANEOUS:

Kluge, Friedrich (translated by J. F. Davis), *Etymological Dictionary of the German Language* (Bell, London).
Rockwell, L. L., "A Glimpse into the German Mind," *Modern Language Journal,* Vol. 12, December, 1927, pp. 172-179. List of books in English dealing with contemporary German culture.

The measurement of the results of teaching. From the early days of modern foreign language teaching measurements have been made by means of translation from the foreign language to English and vice versa, together with questions on grammar and syntax. College entrance examinations have been of this traditional type and have perpetuated its use in schools. A second conservative influence has been the belief that the languages as cultural entities were not susceptible of objective measurement. Even the best of the older type of examinations—those of the College Entrance Examination Board—are far from perfect both from the point of view of their construction and of measuring the stated aims of teaching.[79]

Deihl [80] points out that a language is primarily an art,

[79] O. T. Robert, "College Entrance Examinations in French," *Modern Language Journal,* Vol. 11, October, 1926, pp. 17-24. See also F. W. G. Heuser, "Regents' Examinations in German," *Modern Language Journal,* Vol. 5, January, 1921, pp. 186-199.

[80] J. D. Deihl, "Bases of Educational Tests in Modern Foreign Languages," *Modern Foreign Language Journal,* Vol. 7, February, 1923, pp. 269-273.

and only secondarily a science. We have not progressed far enough to measure language as an art, though the *Modern Foreign Language Study* has furnished a great stimulus toward their objective measurement as a science. Henmon and Handschin showed the way in their earlier tests; later investigators have profited by their experiments, by tests in other fields, and particularly by those devised during the Classical Investigation. Rather satisfactory standardized tests are now available for the science of the language, if by science we understand a knowledge of vocabulary and grammar, and the ability to read and write the foreign tongue.

Progress has also been made in the testing of pronunciation. It has been held that oral and aural tests were necessary; Robert and Deihl mention their desirability,[81] Crawford and Bovée have experimented with them,[82] and Decker has made a vigorous plea for their inclusion as parts of the Regents' examinations.[83]

To measure achievement accurately, the tests must be standardized so as to remove the personal or subjective element. Henmon has described the construction of his Latin tests;[84] the principal steps are choice of material, administration to a large number of pupils in different cities, validation of material, and final arrangement of test. These tests help to make definite the work for pupil and

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[81] Robert, *op. cit.*, Deihl, *op. cit.*

[82] J. P. W. Crawford has experimented with an aural standardized test in Spanish in connection with the *Study*. See also A. G. Bovée, "A Suggested Score Card for Attainment in Pronunciation," *Modern Language Journal*, Vol. 10, October, 1925, pp. 15-20.

[83] W. C. Decker, "Oral and Aural Tests as Integral Parts of the Regents' Examinations," *Modern Language Journal*, Vol. 9, March, 1925, pp. 369-371; see also "Aural Tests in New York State," *Modern Language Journal*, Vol. 11, January, 1927, pp. 245-246.

[84] "Measurement of Ability in Latin," *Journal Educational Psychology*, Vol. 8, November and December, 1917, pp. 515-538 and 589-599.

teacher, make for uniform promotions, tend to uniformity of purpose and method in a given department, make for greater homogeneity, and serve as a check on prognosis tests if such tests are used.[85] Since norms or standards of achievement are available for the actual performance of thousands of unselected children, they serve as an excellent basis for comparison of any work done with what the average class or pupil does. A possible criticism is that they tend to standardize the work on the average performance and do not allow for improvement. It may be that norms should be of different kinds: one set for pupils who will not continue, one for those that will; one for cosmopolitan high schools, one for essentially college preparatory schools, etc.

Standardized tests may be used to diagnose pupil errors. Since the material used is selected with due regard for the aims of the subject, all that is needed is to count the errors made, classify them, and use the knowledge gained as the basis for future drill. A growing practice, however, is to apply the technique of the standardized test to informal objective examinations. A description of one experiment of this kind is contained in the *Educational Research Bulletin* of the Ohio State University.[86] The answers to the 135 new type questions were charted on a large sheet of paper, so that it was possible to know the number of pupils answering each question correctly or incorrectly or omitting the question, the percentage answering each question incorrectly or correctly, and the number of right and wrong responses made by each pupil. If, for example, 50 per cent missed a certain question, either the question was unintelligible or the students did not know the point in

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[85] M. A. Luria, "Standards and Measurements in Spanish," *Hispania*, Vol. 5, December, 1922, pp. 354-359.

[86] R. O. Billett, "Application of the Technique of the Standardized Test to the Informal Objective Examination," *Educational Research Bulletin*, Ohio State University, November 3, 1926, pp. 331-335.

question, and remedial measures were in order. The same thing is possible, of course, in an ordinary essay type of examination, but the details are less easily discovered in an essay response.

About 1921 experiments were made on prognosis tests, especially by Handschin and Wilkins,[87] to discover in advance whether or not pupils had the abilities necessary for success in foreign language work. Opinions differ as to their success; some find them valuable,[88] others are doubtful,[89] feeling that an intelligence test alone or an intelligence test combined with results of previous work in English are just as predictive. Further light on the question may be expected in a volume to be edited by Henmon in connection with the *Modern Language Study*.

G. O. Russell [90] has suggested a scale for the testing of reading ability as distinguished from translation ability based on the Burgess Picture Scale in English. Other articles that have come to the writer's notice are by Lemper [91] in which no conclusions were drawn as to the relative value of the objective and subjective tests, and by Crawford and

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[87] L. A. Wilkins, *Prognosis Tests in Modern Languages* (World Book Co.).

[88] Ruth Blakey, "The Use of Prognosis Tests in Modern Languages," *School Review*, Vol. 35, November, 1927, pp. 692-698. See also C. E. Castañeda, "Reducing the Number of Failures," *Hispania*, Vol. 6, October, 1923, pp. 240-243, B. C. Friedl, "A Study in Foreign Language Prognosis," *Modern Language Journal*, Vol. 11, February, 1927, pp. 298-314, A. I. Rochm, "Tests at George Peabody College for Teachers," *Modern Language Journal*, Vol. 10, April, 1926, p. 439, and A. M. Twigg, "Laggards in Our Language Classes," *Bulletin of New England Modern Language Association*, Vol. 15, pp. 29-39.

[89] J. N. Jordan, "Prognosis in Foreign Languages in Secondary Schools," *School Review*, Vol. 33, September, 1925, pp. 541-546.

[90] "Silent Reading," *Modern Language Journal*, Vol. 9, May, 1925, pp. 459-468.

[91] L. H. Limper, "Objective *vs.* Subjective Tests in Modern Languages," *Modern Language Journal*, Vol. 10, December, 1925, pp. 175-177.

Raynaldo whose results favor the old style examination [92] except under certain conditions. Many other persons are working in the field, however, either in isolated experiments or in connection with the *Study*, and it is significant that the College Entrance Examination Board is more than passively interested in this matter.[93]

A list of the achievement tests now available in the modern foreign language field follows.

FRENCH:

Cheydleur, F. D., *American Council French Grammar Test, Selection Type* (W.B.C.).[94]

Coleman-Henmon-Trabue, *American Council Alpha French Test* (W.B.C.) Vocabulary, Grammar, Reading, Composition.

Greenberg-Wood, *American Council Beta French Test* (W.B.C).

Méras-Roth-Wood, *Columbia Research Bureau French Test* (W.B.C.).

Twigg, A. M., *French Vocabulary Test* (Ginn).

Young-Vander Beke-Stoddard, *Iowa Placement Examinations* (Ia.), Training, Aptitude.

SPANISH:

Buchanan-Crawford-Henmon-Keniston, *American Council Alpha Spanish Test* (W.B.C.), Vocabulary, Grammar, Reading, Composition.

Callcott-Williams-Wood, *American Council Beta Spanish Test* (W.B.C.). Vocabulary, comprehension, and grammar.

Callcott-Wood, *Columbia Research Bureau Spanish Test* (W.B.C.).

Contreras-Broom-Kaulfers, *A Test of Spanish Vocabulary*, and a *Silent Reading Test in Spanish* (P.S.P.C.).

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[92] C. C. Crawford, and D. A. Raynaldo, "Some Experimental Comparisons of True-False Tests and Traditional Examinations," *School Review*, Vol. 33, November, 1925, pp. 698-706.

[93] *Twenty-fifth Annual Report of the Secretary*, College Entrance Examination Board, 431 West 117th St., New York City, p. 33.

[94] Abbreviations are those of publisher: (W.B.C.) World Book Co., Yonkers-on-Hudson, N. Y.; (P.S.P.C.), Public School Publishing Co., Bloomington, Ill.; (Ia.), Extension Division, University of Iowa, Iowa City, Ia.; (Ginn), Ginn & Co., Boston.

Espinosa, A. M., and Kelley, T. L., *The Stanford Spanish Tests* (Stanford University Press). Grammar, vocabulary, meaning.

Vander Beke-Stoddard, *Iowa Placement Examinations* (Ia.), Training and Aptitude.

GERMAN:

Henmon-Morgan-Purin-Hinz-Rossberg, *American Council Alpha German Test* (W.B.C.), Vocabulary, Grammar, Reading, Composition.

Purin-Wood, *Columbia Research Bureau German Test* (W.B.C.), Vocabulary, Comprehension, Grammar.

Van Wagenen-Patterson, *A German Reading Scale* (P.S.P.C.).

Types of error and remedial work. Although pupil failures are not always the fault of teachers, a general analysis of the reasons for failures such as the one made by D. C. Rogers [95] may contain valuable suggestions for lessening the number of such failures. Certain of the reasons which he advances, poor health conditions, low mentality of pupils, large pupil turnover, and so on, are scarcely alterable by the individual supervisor or teacher. Certain other administrative conditions, however, do lie within their province. Among these are a lack of coöperation between the teachers and pupils, and a lack of provision for homogeneous groups for instruction or for individual differences.

One study, at least, indicates that better results are obtained when classes are sectioned by ability.[96] In a large school where this is possible present opinion indicates that it should be done. One caution is necessary, however; care

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[95] "A Study of Pupil Failures and Subject Failures in Chicago," *Journal of Educational Research*, Vol. 14, November, 1926, pp. 247-255.

[96] J. B. Tharp, "Sectioning Classes in Romance Languages," *Modern Language Journal*, Vol. 12, November, 1927, pp. 95-114. See also L. M. Grossman, "Slow Progress Classes in the Modern Languages," *Bulletin of High Points of High Schools of New York*, September, 1927.

must be taken to see that the teacher assigned to the slow group is one who can work with that type of pupil, since a different technique and temperament are required in handling dull pupils. In smaller schools, of course, it is impossible to section in this manner. All that can be done is to discourage the poorer students from attempting to study modern languages, but once the class is formed the method used should conform with the needs of the majority. Arrangements should be made, though, to care for the needs of the minority,[97] by means of such devices as the flexible assignment with marks based on the quality and kind of work, supervised study, diagnostic testing and remedial teaching, grouping within the class, differentiated instruction, or individual instruction.[98]

A very potent reason for pupil failure in modern languages, as in all other subjects, is the lack of suitable instruction in the correct methods of study. Most books dealing with general methods of teaching include detailed instructions which should be called to the attention of all pupils. A list of study helps such as is given by Touton[99] is valuable: (1) in reading, review daily, read rapidly for quick comprehension, associate meanings, read for the idea, read selected portions aloud, check results, and increase

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[97] A. L. Corbin, "Special Promotion for Superior Students," *Modern Language Journal*, Vol. 12, November, 1927, pp. 115-117.

[98] For the technique of these devices, see H. R. Douglass, *Modern Methods in High School Teaching*, Ch. xv (Houghton Mifflin Co., Boston, 1926); F. W. Thomas, *Principles and Technique of Teaching* (Houghton Mifflin Co., 1927), Ch. xvii; or *Twenty-fourth Yearbook* of the National Society for the Study of Education, Part 2 (Public School Publishing Co., 1925), Myrtle Violet-Sundeen, "Individual Differences in the Modern Language Class," *Modern Language Journal*, Vol. 13, November, 1928, pp. 112-117; or H. L. Miller and R. T. Hargreaves, *The Self-Directed School* (Charles Scribner's Sons, 1925).

[99] F. C. Touton, "Suggestions for Effective Study in Secondary Schools," *California Quarterly of Secondary Education*, October, 1926.

reading skill by use of foreign magazines and newspapers; (2) in vocabulary, review former vocabularies, correlate new words, learn idioms, practice them in original sentences, and apply knowledge in original ways; (3) in grammar, analyze and discriminate, discover short cuts, and think for yourself; (4) in composition, concentrate on essentials such as position, agreement, gender, mood, and accentuation, check results by studying corrected work, and work for accuracy.

The writer has seen no extensive tabulation of reasons for teacher failures in the teaching of modern languages.[100] It seems reasonable to assume, however, that errors are due most frequently to ignorance or non-observance of the psychological principles underlying modern language study. These have been previously mentioned. There is also the possibility that teachers do not understand clearly enough the real aims of secondary education or the aims of modern language teaching to vary their courses to meet the future intentions of their pupils. Or, worst of all, their personality may be such that little good follows an attempt to apply what they do know.

The improvement of teachers in service. Leaders in the modern language field realize that some knowledge of teaching technique is needed to supplement the content knowledge of the language itself. This is seen in the recent studies of the preparation of modern language teachers [101] and proposals for teacher-training curricula.[102]

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[100] D. H. Carnahan has analyzed some of the reasons for teacher failure. See "Good Teaching," *Modern Language Journal*, Vol. 8, April, 1924, pp. 405-415.

[101] C. M. Purin, *Training of Modern Language Teachers* (to be published by the *Study*, summarized in *Modern Language Journal*, Vol. 13, October, 1928, pp. 15-20). See also Hugh Stuart, *Training of Modern Foreign Language Teachers for the Secondary Schools of the United States* (Bureau of Publications, Teachers College, Columbia University, New York City, 1927).

[102] Joel Hatheway, "Ideal Preparation of Modern Language

Improvement of teachers, especially of those older in point of service, may well come about by the careful study of those phases of teaching thought to be important, which in many cases means methodology. Those who have entered the profession recently have probably some knowledge of this and may profitably spend their time in studying new devices, in keeping abreast of the vast amount of literature now appearing on modern language teaching, or in completing their knowledge of the grammar and literature of the country whose language they are teaching.

The duty of the supervisor is to suggest and to criticize constructively in such a way that the teacher will be glad to coöperate toward improvement; the duty of the teacher is to accept such suggestions and criticisms with the determination to eliminate faulty habits and to replace them by correct ones. This calls for a helpful and suggestive attitude on the part of all concerned. It is obvious that an autocratic and destructively critical attitude on the part of the supervisor will not accomplish the improvement of teachers, nor will a stubborn and resentful one on the part of the teacher.

In many cases improvement may come about by means of conferences between the supervisor and the teachers. This is particularly desirable when it is necessary to attack one or two of the most vital faults in order to save a situation.

A better method is by the formation of study groups. Since there is always a danger in such groups of rambling discussions of individual methods or problems and of not keeping to the subject at hand, the supervisor, or head of department, or one of the more experienced teachers is the

Teachers," *Bulletin of the New England Modern Language Association*, Vol. 15, pp. 39-44. See also P. H. Churchman, "Wanted: The Graduate School of Teacher Training," *Modern Language Journal*, Vol. 11, October, 1926, pp. 1-11, and C. H. Handschin, *op. cit.*, Ch. xvi.

natural leader. Since many teachers are only vaguely aware of the psychological bases of the technique of teaching, it might be well to initiate such group study by a consideration of this problem, relating individual troubles or helpful devices to general principles. If all are conversant with these matters, strengthening the cultural background might be tried, or a definite piece of experimental work, such as those outlined by the *Study*, might be started. The History Seminar in the Winnetka, Illinois, system has done notable creative work in the reorganization of the social-studies curriculum;[103] the same could be done by a qualified group in French. The supervisor or a selected teacher might circulate mimeographed suggestions for reading from the current books and articles. The possibilities of such group study are enormous.

A second method of improvement lies in increased formal study. Teachers near a university should be encouraged to attend regular classes, others to travel, to attend summer schools, or to take extension courses. Foreign travel is, of course, an excellent investment, and there are now arrangements whereby this travel may be so directed as to secure the maximum benefit by attendance at a foreign university part of the time and visiting points of interest the remainder. These trips are arranged at the lowest possible expense, and are possible in Mexico, Porto Rico, Spain, and France.[104]

A third means of improvement has become popular during the past few years: summer schools, such as those at

[103] *Twenty-second Yearbook*, Part II, "Social Studies" (Public School Publishing Co., Bloomington, Ill.), pp. 216-233.

[104] For information about such courses and trips consult the advertising pages of the *Modern Language Journal* or, preferably, write the Managing Editor. See also G. C. Hemingway, "A Summer at the College of the Pyrenees," *Hispania*, Vol. 7, May, 1924, pp. 194-196; Raymond Walters, "Vacation Courses for Foreigners in French Universities," *School and Society*, Vol. 20, August 23, 1924, pp. 247-248.

Middlebury College, Vermont, and at Pennsylvania State College, Pennsylvania, which furnish so far as possible a real foreign atmosphere. At these schools only the foreign language is spoken, and there is an opportunity for concentration and a proper coördination of practice in pronunciation with practical work in writing, reading, and the needed cultural background. There can be no doubt that, as this idea spreads, a decided impetus toward better prepared teachers will result.

Keeping up with the literature of modern-language teaching. The teacher or supervisor of foreign languages, as in all other fields, must keep up with the times. This is especially important now that such widespread coöperative experiments are being carried on and reported, that the results of the *Study* are appearing, and that changes in textbooks and methods are imminent because of the findings of the Study. The one indispensable publication is the *Modern Language Journal* (price $2.00 per year, address C. H. Handschin, Oxford, Ohio). Every issue is full of the most valuable material in the French, German, and Spanish fields together with news notes of individuals, notices of regional meetings of associations, and reviews of books. In addition, once a year, there is published a bibliography of articles appearing in all other publications. Scarcely less valuable to teachers of Spanish is *Hispania* (price $2.00 per year, address *Hispania*, Stanford University, California), the official organ of the American Association of Teachers of Spanish. For teachers of German the *Monatschefte für deutsche Sprache und Pädagogik*, suspended during the World War, has been revived under the name of *Monatshefte für deutschen Unterricht*. Bulletins are frequently issued by the New England Modern Language Association, the Pennsylvania State Modern Language Association, the Wisconsin Association of Modern Foreign Language Teachers, and by the Modern

Language Association of Southern California. Other sources of information are the bulletins issued by the Departments of Education of the various state universities.

For additional suggestions in French and Spanish, the University of Iowa Extension Bulletin [105] has a section on "Texts and Reading Books" and for Spanish alone the list of "Textbooks for High School and Elementary College Classes" [106] contains material for either a personal or a school library. Wilkins [107] in his *Spanish in the High Schools* devotes Chapter XVII to "Bibliography and Other Aids for the Teacher of Spanish," including among other things a list costing about $100. As there is a lack of such lists in German, no hints are given in this chapter.

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———, "What Ails Beginners?" *Hispania,* Vol. 5, December, 1922, pp. 311-320. Analysis by pupils of their own difficulties.

CHAPTER VI

THE SUPERVISION OF ENGLISH

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The comprehensive character of supervision of English. The duty of supervision in English is, briefly, to see that pupils' command of English is made adequate for their genuine needs outside of school. This includes the ability to read comprehendingly all sorts of texts and other books, and the power to speak and write with reasonable clearness and effect. This command of English should carry with it also a reasonable satisfaction with work in the subject, particularly in composition and the enjoyment of literature; but in effect this is included within the objectives already mentioned. For without satisfaction in work there is likely to be no real achievement of power, and nowhere is this more true than in getting meaning from what one reads and in mastering the skills of genuinely effective expression.

The argument is frequently advanced that skill in reading and in expression is as much an affair of other departments as of English; and obviously this is true. Without ability to get the meaning of problems and directions, no pupil can succeed in mathematics or in any laboratory course. Above all, one might suppose that in subjects like history and civics, when pursued as described in Chapter VII, the ability to read comprehendingly is essential. Yet in an investigation which has many ironic implications among its results, Miles discovered almost no correlation

between achievement in reading skill as measured by the Thorndike-McCall reading tests and success in content subjects in a large city high school. The correlations between reading scores and grades in history and civics were the lowest of all.[1] The plain fact of the matter appears to be that many school subjects are still taught as processes of memorization, with which comprehension has little, if any, relation. Obviously it is highly important to attack this problem of comprehension and expression from whatever side it appears pregnable. For such an attack, a supervisory consideration of the pupils' power and growth in reading and in composition is the principal concern of this chapter.

The supervision of English, then, necessarily considers and affects the teaching of every school subject. Effective work in English cannot be done in one department only; nor can we achieve the best results in other school subjects, particularly science, history and civics, mathematics, and foreign language work in so far as translation is involved, except by means of a reënforcement through good teaching of English. Other art subjects and music have, of course, their own means of expression, though they also require mastery of the English of following directions and establishing communication. But those subjects in which reading and report form a major part of the preparation and classroom work, not only give pupils most of their practice in the use of English, and so actually make pupils' school English what it is, but they are also largely dependent for their success on the student's powers and skills in English. Hence, it is proposed that the duty of supervision in English is to see that good, effective teaching of English

[1] D. A. Miles, "Significance of Reading in High School," in J. C. Bell, *Contributions to Education* of the New York Society for the Experimental Study of Education, Vol. 1 (World Book Co., 1924), pp. 283-297.

is conducted in every class in the high school where English is used at all; and this not for the sake of preserving a mythical purity of the language, but for the practical and determinative reason that efficient teaching of all subjects requires such supervision. Obviously, this is a supervisory task not for any one department, but for the administration of the high school, since it concerns quite vitally the success of the whole enterprise.

This chapter will consider separately, first the objectives, sequences, content, and procedures for the teaching of composition or language and grammar; and, second, the different but important problems of organizing and carrying through the teaching of reading and literature. Thereafter, common problems of equipment, standards, and classroom supervision will be discussed.

The high-school course in composition. 1. *Practical aims of composition teaching.* The immediate, practical purpose of work in oral or written composition should be to increase the effectiveness of English expression—to produce English which is clear, vigorous, and nicely adapted to its purpose. But here we come upon a very pertinent question—What is wrong with the English of pupils entering high school? Is not their speech on the playground and the street, and at home fluent, animated, and quite sufficiently clear? Must we not admit that, for their purposes, for the subjects they discuss and the uncritical audiences they address, young people, untouched by high-school English, are probably more efficient in the subject than are teachers and other professional people? Children have disputes and disagreements because they don't understand one another, to be sure, but probably not so often as educators do in discussing their own more complex and difficult concerns. In page after page of stenographic reports of young people's conversation outside of schools, as recorded in C. H. Matravers' current study of usage,

not one incoherent sentence appears—there is nothing which is not perfectly clear in meaning.[2] Reports of school recitations, however, showed any amount of hazy, muddy expression.

With this in mind, if we reëxamine the statement of objectives for composition above, we may see that the aim of this subject is really to help children, already efficient in expression on their own level, first, to deal with more and more complex problems of expression—to deal with the difficult subjects of thought which high school presents to them; and second, to be capable of meeting the more exacting demands of educated people for basic conventions or forms of speech and writing. For writing or speech cannot be effective—though it be clear and vigorous—if it offends against real proprieties of expression. The high-school boy who "ain't saw no dog" is clearly understood, so far as his meaning is concerned. The only "error" is simply that for all purposes of cultivated communication the boy has written himself down as illiterate or "vulgar" —in the exact sense. He has placed an effectual barrier between himself and all educated persons. If he does not really care about the opinion of cultivated people—if he has no intention of entering any occupation or social circle where illiterate speech would be a bar—there is simply nothing that high-school English teaching, or any other influence can do for him. But, since he has entered high school, the presumption is that he will become an applicant for social place and business advancement.

The endeavors of our schools to smooth out differences in speech level are essentially democratic. Success in this program could result in a definite increase in mutual understanding and confidence among people. The purpose

[2] In an unpublished master's thesis, School of Education, University of Wisconsin.

of composition in high school is, taking pupils already efficient in their limited and easy uses of English among their uncritical mates, to help them grow more and more competent in the expression of new and complex ideas. A necessary part of this competency is the ability to speak and write according to the standard of persons of cultivation and critical intelligence. Such a statement of aim takes us at once away from the notion of "original sin" in language, by which the pupil and all his expressions are judged wrong and the teacher sets to work with desperate patience to correct everything that he says. The best procedures to attain the aim we have set will be discussed in a later section.

It is sufficiently clear that whatever we do to put pupils in real command of expression of difficult subjects will do something toward strengthening and straightening their thought processes. Whatever may be possible theoretically, the practical and universal method that clears up vagueness in our ideas is trying to express them. When we succeed in getting a thing said or written so that other people can grasp it, we know we have it clear for ourselves. There is mental discipline in making oneself comprehensible to other people.

And finally, both the effort to get real understanding of what one is communicating, and attention to the courtesies and conventions of form in real situations, contribute greatly to the making of a truly social being of the small, self-satisfied savage whom we meet as he enters high school.

2. *Sequences of courses in composition.* That composition should be required work for all pupils through the junior high school years, to the end of grade nine, is reasonably certain. This, including possibly half of the usual five periods a week for English in these years, should be sufficient time to cover the necessary routine work in gram-

mar, spelling, and language study. It should thus be possible, by the end of the ninth grade, to cover such fundamentals as are listed in the report of Ward's committee on the Mechanics of Writing.[3] In brief, there should be sufficient time provided for the pupil to attain, in junior high school, the ability to speak and to write a paragraph of half a dozen sentences, to organize this clearly as narrative or explanation, or as a simple letter, avoiding errors of a minimum range in spelling, sentence recognition, and grammar.[4]

It is possible that in one of these three years, probably best in the eighth grade, a course in general language should be included, as preparation for senior high-school work in English and for the beginning of foreign language study. A notion of development of languages, and some informal ideas on the history of English, which in itself is more than any other a "general language," should probably be included. There needs also to be a considerable amount of actual experience in looking up the derivation of English words from various languages and in discovering how words are built. This, with the necessary grammar and composition, can well make up the language part of a course for Grade VIII; preceded and followed by more intensive work in composition and in form, it constitutes the core of a junior high-school course in language.

Specific work in composition at present needs to be continued into, and usually through, the senior high school. But in schools where the previously mentioned aims of junior high-school English are actually attained in reasonable measure by the end of ninth grade, and indeed for all pupils who attain such measurable objectives, separate classes in composition in Grades X-XII should probably

[3] C. H. Ward, "Report of the Committee on Economy of Time: I. The Mechanics of Writing," *English Journal*, Vol. 8, February, 1919, pp. 105-121.

[4] See section on Standards, pp. 255 and 258-260.

be electives in newspaper writing, or the writing of short stories or one-act plays or verse.

This scheme implies, of course, that proper conditions for organizing real composition and for observing its proper form are maintained in all school subjects where pupils speak or write connectedly; and it requires also, as we shall contend in connection with the class in literature, that much composition for purposes of enhancing the reality of literature shall be done in all the English classes. It is not likely that such conditions are practicable in many high schools to-day, or will be possible in the near future, but this nevertheless remains an ideal to work toward.

At present, the four-year high school, in particular, must take pupils as they are when they enter the school, and give them an adequate preparation in composition for achieving literacy and command of expression; and it must do this on almost no foundation. Moreover, the high school suffers from the segregation of composition teaching into classes in English only, usually hampered with wide objectives of the "pious-aspiration" type, impossible of attainment. As a usual result, large proportions of the pupils who enter colleges or universities, or go into business at the end of the high-school course, are inadequately trained in the simple fundamentals of literacy that are here suggested for achievement in the junior high school. Less idealistic and more practical aims, with full achievement through the cooperation of all teachers in the school, are suggested as the best cure for this difficulty. Such a policy should result in a gradual freeing of the senior high-school course from separate required classes in composition.

3. *Selection and placement of composition content.* Recent studies of the subject matter of courses in composition have been concerned chiefly with checking up the demands of school courses and textbooks by the conditions and needs of life. Studies by Ward and Pressey have served consid-

erably to reduce the burden of punctuation principles to be taught.[5] The results of explorations in the spelling field are too well known to require comment.[6] In particular, a few words constantly misspelled have proved to be responsible for the greatest part of the difficulty, and attention can be centered on them.

Much the same thing is true for matters of good or correct usage. Such authoritative works as the *New English Dictionary* and the *International Dictionary* and other American works show clearly that many prescriptions practically universal in our textbooks do not square with the usage of cultivated people and of standard writers. A recent study, in which most of the leading linguists in the world recorded their observations,[7] emphasized the same point very sharply; the following expressions, condemned in most grammars and rhetorics used in high schools, were accepted by more than 75 per cent of the scholars as thoroughly good for cultivated, informal use:

This is a man . . . I used to know (omitted relative).
You *had better* stop that foolishness.
Under these circumstances I will concede the point.
We *got home* at three o'clock.
He did *not* do *as* well as we expected.
None of them *are* here.
This was the *reason why* he went home.
That will be *all right,* you may be sure.
We will *try and* get it.
I felt I could walk no *further.*
I've absolutely *got* to go.

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[5] Ward, *op. cit.;* S. L. Pressey and F. R. Conkling, *Student's Guide to Correctness in Written Work,* Teachers' Manual (Public School Publishing Co., Bloomington, Ill.).

[6] Summarized to 1917 by H. C. Pryor in the *Fourteenth and Sixteenth Yearbooks* of the National Society for the Study of Education, 1915 and 1917 (Public School Publishing Co., Bloomington, Ill.). See also Ward's list in the report cited above.

[7] S. A. Leonard and H. Y. Moffett, "Current Definitions of Levels in English Usage," *English Journal,* Vol. 16, May, 1927, pp. 345-359.

Will you be at the Browns' this evening?
We *only* had one left.
Who are you looking for?
We can expect the commission *to at least protect our* interests.
That's a dangerous curve; you'd better go *slow*.
It is *me*.
A treaty was concluded *between* the *four* powers.
I have *got* my own opinion on that.
My contention has been *proven* many times.
One rarely likes to do as *he* is told.
There *was* a bed, a dresser, and two chairs in the room.
Can I be excused from this class?
What was the reason for *Bennett making* that disturbance?
Haven't you *got through* yet?
He never works *evenings* or *Sundays*.
They invited my friends and *myself*.
Every one was here, but *they* all went home early.
He went *right* home and told his father.
The Rock Island *depot* burned down last night.
That clock must be *fixed*.
My *folks* sent me a check.
I *guess* I'll go to lunch.
I *can't seem* to get this problem right.

Among the expressions rejected as illiterate by three-fourths or more of the judges are:

He looked at me and *says* . . .
The *data* is often inaccurate.
I must go and *lay* down.
That *ain't* so.
He won't *leave* me come in.
You *was* mistaken about that, John.

The fact of the matter is simply this: a great part of the prescriptions about English usage still found in our texts were actually never a part of good English usage, but have been invented by grammarians and rhetoricians in the period since 1760, when prescriptive grammar first became fashionable. Almost countless expressions of good use and authority have since been condemned arbitrarily in favor

of something, perhaps quite as reputable but by no means solely correct, which the rhetoricians happened to prefer. For one instance, many Scotch expressions were at that time condemned by Scotch rhetoricians who wanted to talk like Londoners; *proven,* one of these, and a perfectly regular form, is still reprehended—and is still used by any cultivated person who happens to want to use it and who is not terrified by purist clamor.

Much that is taught in our English classes in fact proves to be quite imaginary and theoretical stuff. The worst result of this is the fact that our pupils come to feel that everything we teach about effective English is equally valueless, and reject it all, the valuable and practical along with the absurdities. Until we clean house and put our English prescriptions really somehow in relation to the actual facts and needs of good use outside our schools, we cannot hope to teach the subject efficiently.

Selection of subject matter for the course in composition, then, must be made in view of such studies of minimum essentials as are listed in the footnotes to this section. We cannot make progress by following a consensus of even the most advanced courses; although such courses show a great improvement from year to year in centering upon real essentials and in trying to arrange them in some sort of sequence, Miss Camenisch's excellent and thorough study is sufficient evidence that their efforts are so far too haphazard and sporadic to give any genuine result.[8] For example, the occurrence of twenty representative points, ranging in importance from "sticking to topic" and elimination of the non-sentences to minor details like quotation form, the pronunciations *doin'* and *goin',* and the possessive plural, was checked by Miss Camenisch in fifteen typical courses of study, both city and state, grade and high school.

[8] Sophia Camenisch, "Representative Courses of Study in English," *English Journal,* Vol. 16, April, 1927, pp. 279-294.

No item save quotations, possessive plurals, and business-letter forms appeared in more than half the courses, and two of these are certainly of less value and importance to pupils than "sticking to the point," sentence recognition, and grossly illiterate forms like *you was*, *leave* for *let*, and *them things*, which had from one to seven occurrences only. No course listed more than nine of the twenty items. The distribution was exceedingly haphazard; the median grade range of the items was six, in addition to general mention without specific grade-placement, and seven items were spread over eight or nine grades.[9]

The suggested plan that follows for the organization of composition content and usage was prepared as a core of first essentials for English work during the six-year period of high-school training.[10] The items named in this outline are regarded as essential or fundamental outcomes and *not* all that should ideally be accomplished.

ORAL ENGLISH

Grade VII	*Grade IX*	*Grade XII*
Organization of a narrative of three or four sentences, planning the first and possibly the last sentence and rehearsing the story before telling it—a narrative as good as 4.6 (Nassau County Scale).	Same *plus* ability to plan an explanation in the form 1. 2. 3. A theme as good as 5.2 (Nassau County Scale).	Planning a three-minute speech on a topic in the enumerative order.

[9] *Ibid.*, Tables I and II, pp. 281-282.

[10] Prepared as a tentative report of the Wisconsin English Teachers' Commission on Fundamentals of a Course of Study for the Six-Year High School. Printed in *English Notes*, Vol. 1, No. 5 (May, 1922).

Written Composition

Same standards as for oral composition on the Nassau scale. An equivalent on the Lewis friendly-letter scale.[11]	Same standard in narrative and explanation on the same scales. An equivalent on Lewis's business and social letter scales.	In narrative and explanation — scale grade 6.7. An equivalent in letters. Ability in writing enumerative themes as in oral composition above.

Mechanics of Writing and Spelling

Grade VII	*Grade XII*	*Grade VIII*
Invariable sentence recognition in *simple* sentences.	Sentence recognition in *tests* invariable for all types of sentences.	Sentence recognition-invariable (93-100 per cent) in impromptu themes.
Spelling: Ward's list for Grades II-VI. 93-100 per cent *in themes.*	Iowa Minimum essential list of 75 words. 93-100 per cent *in themes.*	93-100 per cent list to be made up from Ward's report (*English Journal,* February, 1919).
Capitalization: *English, French, American.*	Capitals for names of languages and races and adjectives derived from them; small letters for school subjects (geometry, science), and general uses of *doctor, school, north.*	

Grammatical Correctness

Possessive singular of nouns; *its, whose, etc.* No errors with *do, come, see, go.*	All possessives, 93-100 per cent in tests. 93-100 per cent in grammatical correctness tests— essential forms.	93-100 per cent in the list of grammatical correctness essentials in all oral and written work.

[11] See Lewis's *Scales for Various Types of Composition* (World Book Co., 25c., excellent samples and grading of social and business letters), and T. H. Briggs, *Laboratory Manual of Letters* (Ginn & Co., 40c.; letters of all kinds to be criticized and discussed).

MANUSCRIPT FORM

Decent appearance of manuscript. Penmanship with a minimum of 8 *Thorndike* or 30 *Ayres Scale* to 9 *Thorndike* or 40 *Ayres Scale.*

PUNCTUATION

Sentence sense; no internal punctuation as a minimum requirement.	Commas in series and for interrupters (*yes, no,* and the word of address).	Commas for interrupting words and phrases, and in compound sentences (especially with *but* and *for*).

4. *Initiating real work in composition.* The sort of gains in composition power and in power of thought and socialization which we have sketched in our treatment of aims do not actually result from perfunctory theme assignment, without true purpose or vital subject matter, nor from heckling, finicking correction. These are the conventional and ordinary procedures, very easy to set going and to machine-tend. But it is more than likely that they are a real reason for the commonly cited failure in school instruction in English. It is necessary to see what better practices can be found to produce the desirable results we have indicated—results, certainly, which should greatly modify or remove the criticisms usually lodged against teachers of English and their work.[12]

The first step in any genuine composition teaching must be the discovery of pupils' real and pressing need for communication. We do not need to be told that this need exists; it is evident in all of us. It manifests itself almost everywhere—even in the schoolroom, where it is usually combated vigorously when it breaks out in the form of pass-

[12] See V. T. Thayer, *The Passing of the Recitation* (D. C. Heath & Co., 1928).

ing notes and whispering. The first step is to direct this force to worthy channels, and then to stimulate, encourage, and refine it.

This is easier to say than to do. When the chief purpose of teachers is inquisition, recitations about what everybody knows, reports of experiments that everybody has performed, résumés of what all have heard or read are the rule. But all these are just as dead and perfunctory as the old-fashioned "oral reading," in which one pupil read aloud from a book everybody had open before him, and the purpose of the rest was to count and publish his mispronounced words and wrong pauses. We must find something better than such recitation, some real composition in place of reproduction, if we are to have any genuine training in communication.

There is a quite possible solution to this problem. In the first place, the use of brief objective tests, in place of recitation and report on what everybody supposedly knows, makes waste of time here as unnecessary as in testing intelligent reading. And, like the comprehension-tests in reading, these check every pupil's performance and do it better than the former wasteful procedures. The same substitution of objective tests on the matter read in a foreign language makes unnecessary the spoiling of pupils' English by a great deal of bad translation. Translation should probably be infrequent, but excellent. The first thing to do to improve the quality of composition in high schools is to realize and avoid the devastating effect of incessant practice in hurried and unconsidered speaking and writing. The way to learn to write is by writing, and the way to learn to write badly is by writing badly, as we have apparently been doing most often in high schools.

This fact makes necessary a good deal of real composition, not in English only, but in all school subjects. Occasions may, and should, be found in every school class for

genuine communication; and these occasions should be capitalized for the development of well organized, socially excellent presentation, and for its evaluation and criticism in a coöperative and creative spirit. For example, reports in history or science should, at least occasionally, be made on topics which each pupil has looked up outside his text, in several sources; they should, if possible, include some experimentation or source investigation in local history or the like. The topic should in every case be carefully circumscribed, so that, in the time to which each pupil is limited, he will be able to present it in adequate detail. Such subjects as "A History of Slavery" and "Compounds of Sulphur" frequently assigned for reports, are impossible to handle in high-school compositions.

Real class discussion should be encouraged. This will concern itself not so much with the form of the presentation, although that will enter incidentally, as with the speaker's grasp or command of his subject, the clearness of his grouping and arrangement, the validity of his inclusions and conclusions, and the ready understandableness of his statement. An occasional brief-answer test on such an explanation or report has been found useful to check both audience and speaker; the pupil who does not listen and join in the discussion thus learns that he fails to get the point, and if many members of the class fail to answer the questions set, the speaker perceives the failure of his organization or statement to carry his points.

In such a discussion, questions of form are excellent if brought in because they really matter. A high-school senior girl, reporting on an industrial school, said, "They learn the girls to make hats." The class noted the illiterate form, and the speaker felt vaguely a lowered social temperature; but she went on, and repeated the error, with the same result. To the credit of the class, their discussion after her talk was upon the matter of major con-

cern—the subject the girl had presented. Questions were asked showing real interest in that. But in the course of this discussion one boy said, "I have to tell you one thing, Mary. You said, twice, 'They learn them to do so and so.' "

The girl flushed red. "Oh, did I?" she cried. "I'm sorry!" And she was. She needed no more reminder of the social effect of that error, and with that, her sensitiveness to other illiterate forms was greatly increased. If the class or teacher had made the usual immediate pounce upon this wrong form, however, the usual result, bored contempt for all that English teachers require, would much more probably have ensued.

Improvement in English expression, then, needs to begin in a really social situation, with pupils' interest in what their classmates have to tell them about their own experiences, discoveries, imaginings. The class in which such interests are at work is like the normal social group outside the classroom in its spontaneous liveness of interest. But the class is different from the haphazard and narrow group to which the pupil has so far belonged—and to which he will always belong unless school means a genuine widening of his powers and interests. Its difference lies in the wider range of subjects which the teacher's knowledge and leadership and the opportunities of laboratory and library make possible. And, like the society of educated people with diversity of experience, but a common basis of culture, this ideal school group maintains a higher standard of excellence in expression than the street or playground group. It expects care and clarity in presentation.

The classroom group is also conscious of the major social taboos that mark the person of limited education and experience. About these matters its attitude is not strict and pharasaical, but it helps to make clear the consequences of lapses from a cultivated standard. So the girl who says

"they learn them" and the boy who says "it ain't" are helped by courteous—and often private—criticism, or better still by actual experience, to realize the social limitations that follow such violations of taboos. Such guidance is about as far as the school can go in dealing with differences of social level. The person who cares can revise his speech standards with surprising ease; frequent repetition *with satisfaction* will do the business. But the usual schoolroom drill is quite futile; pedantic correction and forced and perfunctory repetition accompanied by distaste simply fix irrevocably whatever undesirable habit we seek to root out by this means.

Once more, effective work in composition must begin with genuine occasions for communication in a truly social—a coöperative and friendly, interested—group. The subjects that call for expression are to be found wherever pupils discover matter of interest, in their exploration of new school subjects or in their experiences in and out of school. The real audience must be first of all the teacher himself; so long as he is merely a corrector of errors or an inquisitor on the learning of lessons, he is of little use or value as a teacher of composition. So soon as he has and manifests genuine interest in what pupils have to say, he stimulates an alertness and pride in the effective presentation of ideas and experience. Such a teacher will be the crystallization center for forming a like-minded group, keenly interested in new experience, and coöperative and friendly, but discriminating, too, in exacting every one's best work. Such is, in brief, the evolution of a true composition situation in any school class. The teacher will have at first, perhaps, the necessity of suppressing kindly but firmly the child who wants to correct everything said—this in the English class particularly. But as soon as he discovers and propagates a right social interest in what is presented, the evolution of reasonable standards is a matter merely of informed

direction. The machine has a self-starter and a powerful motor, and progress in some direction is inevitable.

5. *Helping pupils to organize compositions.* Organization or prevision of what any one has to report in speech or writing is largely a matter of adaptation to audience. Exposition or explanation, particularly, is good only as it proceeds from where one's audience is to where the speaker or writer intends taking it. This can be learned practically only by trial and error in the classroom. Boys who explain radio reception or football tactics, and girls who tell how to cut out a dress or bake a cake, usually fail at first because they do not realize the hearers' lack of basic experience for understanding them. And at first both audience and teacher are likely to let them go on fluently, or even to consider them successful for speaking so much.

The English class is a useful meeting place for training in explanation, since nearly every subject from other classes and from outside the school can be brought here. A good teacher may have everything, from food-choppers and small electric furnaces to mold-boxes and lame dogs, in his classes for exhibit and explanation, and his boards may be frequently covered with abstruse diagrams of games and processes. Classes in science and in mathematics have equal need of clarity in explanation, and frequently can introduce subjects for individual reports that are not familiar to most of the class. A practical discovery of the need for limitation of subject matter, and for coherent arrangement beginning where the readers or hearers are, is of genuine value. In comparison, the usual rhetoric topics of unity and coherence seem pale and ineffectual indeed. They are developed and taught, usually, in a vacuum, without relation to the needs and values of social communication. Practical study of organization can be well begun in the English class, but to be effective it should be car-

ried out in every class where explanation has place and value.

6. *Organizing material from books.* A special problem, affecting the preparation and criticism of reports in all school subjects, is the handling of subject matter from books. Most pupils come into high school, and many go from there into college, with insufficient training in the use of reference sources, and particularly in the presentation of book material in reports. In English classes it is easy to sidestep the problem by having compositions on matter from pupils' direct experience only, the justification being that if pupils do make reports of matter from books, they will only copy out what they find, or juggle with the wording so as to avoid open plagiarism. The problem cannot be evaded entirely, however; it affects too many departments of the school. Genuine training in composition can effectually develop essential powers and knowledge here. The use of reference books and libraries is sufficiently presented in Chapter XIV. We need to consider here the use, in reports in all school subjects, of the material thus amassed. The solution hinges on the presence of a genuine social situation, a pupil's opportunity to present what he has discovered to an audience alert to what he has to say, because they are awake to the possibilities of his subject. The procedure for handling material in such a real situation is actually simple; one has only to demand (1) the pupil's digestion of material, and (2) his reorganization of it for the particular audience and purpose and occasion.

The best aid in helping pupils "digest and make wholly theirs" the subject matter of books, is insistence that they use more than one source of subject matter, more than one reference for all points of importance; and that, wherever possible one of these sources be the writer's direct experience. In so remote a topic as Roman Ships, there can be

some evidence of original investigation of charts, plates, and pictures. A pupil writing a report on this topic, by careful study of plates in the historical library, did a very creditable piece of explanation of the banks of oars, which he had nowhere found explicitly explained. Pupils who have this sense for getting subject matter from all possible sources and adapting it to their actual purpose, are in no danger of being lost among book sources for their reports. They know the most important things about organization of composition and can use them.

For getting a good organization to fit his audience, it is right and reasonable to demand that the speaker or writer begin where the rest of us are—with some phase of the subject related to our interest and experience. For example, a history unit on Roman war-galleys might start out with a reference to our knowledge of Ben Hur's adventures or to our recollections of the Punic Wars. A science report on coal would naturally start with our experiences of coal in the yards or our own cellars.

Above all, a biography should be accepted only if it abandons the traditional order beginning with "birth and ancestry, and early training," and strikes directly into the important subject of what the man and his work mean to us. A boy of very commonplace ability who had to write on William Pitt for history, when told that his report would be accepted for English credit provided he organized it according to the principles just outlined, came next day saying, "I'm going to write on why an American boy ought to know about William Pitt." This announcement indicated a signal triumph. It meant a grasp of what is probably the first principle of organization—limiting the subject in relation to the actual audience and occasion.

7. *The consideration of form in composition.* With real social occasions for composition, oral or written, the need for good form presently arises. It is not true, as an Eng-

lish teacher once contended, that when a pupil is interested in his subject "the semicolons march proudly to their places" and the manuscript comes out clean and rightly spelled. On the contrary, preoccupation with an interesting subject often takes off all attention to form, so that the manuscripts of the most ardent thinkers are likely to be a quite illegible mess. And perhaps this is as it should be. At any rate, attention to form should be a distinct and separate matter; it ought to come *after* the process of organization and actual writing have been finished. For it is quite impossible to maintain command of a subject and, at the same time, interrupt one's thought constantly with care about spelling or punctuation or any other aspect of form. All that anybody can or ought to think about, once a subject is planned and organized for the purpose in hand, is precisely what any real writer thinks about at the moment of composition—the best wording and sentence structure for presenting that organized thought with the maximum of force and clarity.

Form has to be considered later and separately at a special time devoted entirely to the process of revising—viewing the production critically after it is written.

8. *Development of ideas of form.* Teachers of English and of other subjects have usually laid down somewhat arbitrarily requirements of manuscript and other form and enforced them. At least more saving of their energy would result from discussion and selection by the class itself of forms to be required. This can be done profitably in any class in junior or senior high school. The matters requiring attention are naturally the proper courtesy of presenting clear and readable manuscript, and the conventions reasonably held by publishing houses, business offices, and the like. The forms adopted—and there can easily and naturally be more than one form permitted for either manuscripts or letters—will obviously be determined in part

by the requirements to which pupils are used. In fact, they are likely to be more exacting than a teacher will normally be, and the business of directing them is often concerned with making the pupil's requirements simple enough to be firmly administered. When a point is determined, illustrations and rules on the bulletin board will serve as guides, or each pupil may have his list in a notebook for use in proofreading period. From time to time new requirements may be added to it. This process is described, and illustrated by photostats of pupils' manuscripts, in Chapters V and XI of the *Junior's Own Composition Book* (Rand McNally, 1928).

Where it is possible to secure coöperation of other teachers, their preferences may well be taken into account in making up the list of form essentials. When this is done, there should be reasonable chance of their holding these requirements for all papers submitted in their classes. A common matter of remark is that teachers who complain of slovenly manuscript handed in to them are suffering, not from the laxity of the English teachers, but from their own failure to require decent form. Where a standard is set by coöperation not alone of teachers but also of pupils, there is every possibility of securing reasonably uniform adherence to that standard throughout a school. That this cannot be done effectually by any one teacher, even with the police assistance of the administration, is sufficiently obvious, but the fact is not often recognized in practice.

In fact, the chief benefit of standards derived in consultation with those who are to use them is just the fact that nobody in the teaching staff then has to do the enforcing. A manuscript that does not come up to the standard set may be referred to a student group for judgment, or in most cases simply handed back to the student with a query whether it ought to have been passed in. The student's

sentiment on a standard which all have been consulted in setting is more likely to be determinative than the teacher's most rigid effort to enforce what he has arbitrarily demanded. The following set of requirements worked out by pupils in a junior high school, and concurred in by vote of the faculty, probably covers the genuine essentials. Kept by each pupil in a notebook and used for checking all papers handed in to any teacher, it proved successful in securing willing adherence by the pupils. The plan produced uniformly better manuscripts than one sees even in schools where attention to English form is a special concern of the administration.

SUGGESTED ESSENTIALS OF FORM IN WRITTEN WORK

I. MANUSCRIPT FORM
- Unlined paper recommended, particularly above the junior high school; 8½ x 11 size
- Reasonable margins at the left and at the top and bottom of pages
- No crowding of words at the ends of lines; no interference of writing between lines
- Handwriting at least as good as No. 9 on the *Thorndike Handwriting Scale*
- Spaces between words, and none within a word

II. SPELLING
- Correct spelling of all words on the 214-list (Ward)[13]
- Not more than two misspellings of words outside the list—(commonly evidence of carelessness in proofreading)

III. PUNCTUATION
- No non-sentences (phrases or subordinate clauses as sentences)
- No "comma-blunder" sentences, as: "He couldn't go, he was too tired"; "He was a good fellow, however, he did not try very hard."

[13] C. H. Ward, *English Journal*, Vol. 8, February, 1919, pp. 109-111.

In senior high school: comma before *but, for,* and *or* in compound sentences; commas in series (red, white, and blue); two commas for interrupters (interjections, the word of address or vocative, *yes, no, etc., however, he said*); correct quotation form.

IV. Grammatical Correctness

No *gross* grammatical errors. (This does not mean correction of *have got, try and go, I will come, etc.*) Forms of *do, come, see, go,* the distinction between *as* and *as if* and between *leave* and *let,* and agreement of verb with subject, need watching particularly.

9. *Essentials of grammar.* The tentative report of the Wisconsin English Teachers' Association,[14] reprinted below, suggests a possible sequence of requirements in basic essentials of grammar for the six-year high school. As this report states, it presents merely the basic and fundamental topics which we may expect every "normal, diligent pupil" to do with a grade of *mastery.*[15]

A Tentative Report on a Minimum Grammar

There are three points of view from which one can attack the making of a grammar outline. One is to include only the barest essentials; a second, advocated by almost no one nowadays, is to include all the grammar that could have any even remote bearing on correct usage or the construction of sentences; and a third method does not go to either of these extremes, but takes for emphasis the essentials to sentence mastery, and adds a very few principles which are helpful in making clear the minima.

The fundamental assumption on which this outline of gram-

[14] Adapted from *Wisconsin Journal of Education,* April, 1927, Vol. 59, pp. 326-329. Special credit should be given Miss Margaret Scallon of the University of Wisconsin, who prepared the preliminary paper "Seven Points in the Teaching of Grammar" from which the report grew, and to Miss Ruth Teuscher, Supervisor of English at Racine, Wisconsin, who was chairman of the committee that revised the report in 1926.

[15] See the section on Mastery, pp. 288-289 below.

mar is based is simple but determinative: Only those topics should be included in a course of essentials on which mastery with a grade of 93 to 100 per cent can and must be exacted of all pupils who complete the work. "A namby-pamby achievement of 70 to 75 per cent" is not regarded as of any value or importance whatsoever. Obviously, superior pupils can accomplish more. They should do so, or else attempt fruitful work in other branches of English. But the grammar here presented for each grade is regarded as altogether necessary for every pupil who completes that grade, and only its thorough conquest and mastery is worth anybody's time or effort.

This outline presupposes no knowledge of grammar on the part of the child when he enters seventh grade except a sense for separating statements in his own speech and writing. The purpose of the Committee in offering a possible course of study has been to suggest one reasonable order of treatment of the necessary grammatical topics; it is supposed that such a course of study will be accompanied at each stage by numerous applications to the practice of composition, especially to punctuation. Only rarely have such applications been here noted.

Purposes of Grammar Teaching[16]

1. *The value of organized grammar as a school subject.* First of all, English grammar is to be taught as the grammar of English and to serve the purposes of instruction in English. It is no reasonable part of its function to teach facts of "general grammar" which are not specifically true of the English language or essential to its mastery—which are of value only as preparation for, or aid in, the study of foreign languages. The decision of the Committee on this point is fundamental to the entire discussion. It is, however, suggested that real mastery of the minimum essentials included in this report will furnish a firmer basis for work in other languages than the attempt usually made to teach a large amount of French or Latin grammar in English, where it does not fit and is not necessary.

2. *The mastery of the sentence.* The greatest contribution which grammar study can make is to the mastery of the sentence:

[16] This outline on the "Purposes of Grammar Teaching," is adapted from the preliminary report of the Grammar Subcommittee, Committee on Economy of Time of the National Council of Teachers of English, English Journal, Vol. 8, March, 1919, p. 182.

to unfailing recognition of the sentence unit in speech and writing, and to power of building clear, vigorous, and varied sentences and of interpreting their structure. It should therefore be the first and the chief purpose of this report to present the topics of organized grammar study which contribute to sentence mastery in this large sense, and suggest when they should be presented. It is worth specific note that such thoroughgoing study as the Committee recommends for this purpose has doubtless other specific values in inducing conscious and logical thought about the forms and structures of English sentences.

3. *The problem of accepted usage.* Grammar is by general consent burdened with the entire problem of correct usage, including idioms. The problems of establishing habits of correctness are, first, to find out what present correct usage is, and then to drill pointedly and persistently for the establishment of each essential form of habit. This does not mean that grammar has no part to play in grouping correct forms for their readiest mastery and in giving a reason for them (where there is a reason: generally there is merely a quite empirical statement of the facts of current usage). The purpose of stating the point in this way is to emphasize the relatively minor functions of grammar in this division of the Committee's study.

A Possible Course of Study

Junior High School

Grade VII

First Unit: Ideally, for mastery in Grade Seven, but of first importance in any grade, and always to be tested, reviewed, and taught for mastery before the Second Unit is attempted.

A. The complete subject and the complete predicate. (Direct objects and predicate substantives should be deferred.)

B. The skeleton predicate verb first, followed by simple subject. It is best at first to use as examples sentences with complete verbs. (We swam in the river.) In this connection emphasize compound subjects and compound predicates.

C. Modifiers: Very simple treatment, just showing that all words except the simple subject and predicate verb trim or garnish either one of those, or change (modify) its meaning.

D. Substantives: the noun and pronoun; verb, adjective, adverb as parts of speech, taught very simply for recognition without any classifying. (Here teach the six troublesome forms: *its, theirs, yours, our, hers, whose*—as a spelling matter.)

E. Predicate substantives and predicate adjectives, treated simply as modifiers of the subject.

F. Direct object of the verb.

G. Nouns
   1. Number (formation of plurals)
   2. Case-forms: common and genitive
      The genitive forms should be carefully deferred until pupils are sure of plurals, and possibly only the singular possessive stressed in Grade VII.

Grade VIII

SECOND UNIT: Ideally for Grade Eight, but, as before, to be mastered, after the first unit, in whatever grade, before the Third Unit is presented.

First must come thorough review of first-unit topics to insure full mastery. When all that is solid:

A. Prepositional phrases
   1. Prepositions and their objects
   2. Adjective and adverb phrases

B. Cases of pronouns—nominative, accusative—particularly coordinate objects like "with you and me," "invited you and me."

C. Chief uses of substantives
   1. Simple subject of subject substantive
   2. Direct object
   3. Object of a preposition
   4. Predicate substantive

D. Complex sentences, defined as those in which a clause is used as a part of speech. Subordinate clauses and subordinating connectives (undifferentiated).

1. Adjective and adverb clauses. Their uses are to be linked with those of simple adjectives and adverbs and of adverb and adjective phrases. Adverb and adjective clauses should by no means be classified.
2. Substantive clauses—a brief treatment to illustrate that such a clause has usually one of the four major noun uses given above. The distinction between appositive and adjective clauses particularly seems valueless at this point.

E. Compound sentences
   1. The coördinating conjunctions (*and, but, for,* and more rarely *or, so,* and *yet*)
   2. The relation-showing adverbs, which have no grammatical function as connectives, (*thus, therefore, then, however, moreover,* etc.)

   (Nos. 1 and 2 need to be sharply distinguished.)

F. Fuller treatment of verb number, with special reference to such idiomatic uses as *you were;* the simple subject separated from its verb by modifiers; singular subjects with plural ending (politics, athletics, etc.); singular indefinites (*everybody, each,* etc.) as subject (the teacher need make no use of the term indefinite); sentences beginning with the expletive *there* (*there is one, there are several*).

Grade IX

THIRD UNIT: Ideally for Grade IX; under present conditions, to be postponed even in Grade XII or in college.

Review and teach again for renewed and assured mastery, all topics so far taught:

1. The complete predicate and complete subject
2. The skeleton: predicate verb and simple subject
3. The noun, pronoun, verb, adjective, adverb as parts of speech, simply for recognition, without classification
4. Predicate substantives and predicate adjectives, treated simply as modifiers of the subject
5. Direct object of the verb
6. Prepositional phrases
7. Chief uses of the substantives:

a. Simple subject or subject substantive
b. Direct object
c. Object of preposition
d. Predicate substantive

8. Cases of pronouns—nominative, accusative—particularly coordinate objects like "with you and me," "invited you and me"
9. Classification of sentences; simple, complex, compound
10. Fuller treatment of verb number

In addition:

A. Verbs
   1. Voice: active and passive
   2. Tense (in the indicative mood), with special reference to the use of the present perfect; to the distinction between the simple past and the past perfect; and to the progressive forms (*is going, was going*). The future perfect is of no importance. Special attention should be given here to principal parts, particularly of irregular verbs which cause most trouble: *do, come, see, go, run, bring.*

B. Pronouns
   1. Personal and interrogative
   2. Special review of possessive adjectives and pronouns
   3. Clear reference of pronoun to antecedent: "A bird can see a worm even when it is flying," "It says in the paper."

DEFERRED TOPICS: Desirable for Senior High School, but to be presented only after the unlikely event of full mastery of the First, Second, and Third Units.

Besides the testing, and if necessary, the review course on all the junior high-school essentials which the committee recommends for each year of the senior high school, and particularly for the last year, the following additional topics may clarify certain aspects of grammar for pupils at this stage. These are proposed rather for survey than for full mastery; the committee does not consider them essentials in the same sense as the foregoing topics.

A. Classification of verbals (as modifiers or substantives)

At this point teach the verbals in their substantive and modifying functions. Stress the nature of the error involved in the dangling participle (*"Arriving there late,* the house appeared dark and deserted"), and the dangling phrase (*"On looking back over the road,* a beautiful landscape greeted my eyes"; *"To enjoy an orchestra,* the kettledrums should be as far as possible from you.") The problem of dangling verbals apparently has a basis in grammar different from that commonly assumed. The sentence "At the age of six years my grandparents died" has all the difficulty of the dangling participle, but no verbal. Professor Baldwin has rightly diagnosed this trouble as "shift of sentence plan." [17] This diagnosis fits all cases of hanging participle and dangling verbal and of elliptical clause, and various other skewed constructions as well:

On opening the door, the odor of frying fish assailed my nostrils.
Walking down the hall, the parlor door is on the right.
He was deaf, due to measles.
While in the vestibule, the door slammed shut.

B. Verbs: transitive and intransitive

C. Mood: attention need be paid only to the meaning, as different from that of the indicative, of the simple imperative form ("Shut the door!") and perhaps in passing to note subjunctive forms like:

God *save* the king.
If I *were* you . . . ; if he *had come.*
I move that John *be* elected.

D. Some special uses of substantives: subject of the infinitive, appositive, indirect object, predicate substantive

E. Pronouns: intensive and reflexive; relative, with double function as substantive and subordinating connective; note agreement of verb with the antecedent of its relative-pronoun subject.

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[17] See S. C. Baldwin, *Writing and Speaking* (Longmans, Green & Co., 1906), p. 4.

Individual Work

Since the idea of mastery[18] is fundamental to the success of this report, it seems best to state that such mastery is likely to be secured best by a good deal of individual work in the classroom. Class discussion will, of course, always be needed for opening up new topics, and may be helpful to all students. But once an exercise or two has been performed and discussed by everybody, the probability is that pupils should go ahead on their own initiative, if possible with self-checking practice-exercises, to prepare themselves for the tests on the given topic. At any rate there is no excuse for holding pupils who have mastered a unit for repetition and drilling in that unit. The teacher will either let such pupils go on to other topics which seem important for mastery in this subject, or provide them with plenty of good live assignments in composition and with books to read which will keep them busily occupied on relevant matter, for enrichment of their course.[19]

The high-school course in literature and reading. It seems highly desirable to separate study-reading from literature. The acquirement of essential skills for getting meaning to suit various purposes must have its own place and be given earnest attention. Getting experience from

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[18] See the section on this topic on 292*ff*.

[19] The Committee urge the use of the terms advocated by the Joint Committee on Grammatical Nomenclature. Copies of the report of this committee may be obtained, price 25 cents, by application to J. W. Crabtree, Secretary, National Education Association, 1201 Sixteenth Street, Washington, D. C.

For the seventh and eighth grades the Committee felt that *simple subject* was preferable to subject substantive and that teachers should be at liberty to use an occasional term like *possessive* as an alternative to *genitive* if that will help clarify the meaning of the topic. Other alternative terms to those of the Committee are *objective* in place of accusative case of nouns; *attribute* or *predicate complement*, or *predicate word*, in place of predicate substantive and predicate adjective.

The Committee wish to discourage the use of the unusual, elaborate, or "literary" sentence in connection with the teaching of the elements of grammar; for purposes of illustration they believe that only such sentences should be used as are ordinary, straightforward, and easily understood.

literature, as we have noted, requires and makes use of some of these skills; but it should be an interesting pursuit of new experience, unhampered by conscious attention to technique, and unspoiled by requirements of facts in history or any science, or by much heed to anything not strictly relevant to the experience. We will therefore consider first the teaching of study-reading; then we can discuss the free and happy employment of books for their best purpose, to broaden and deepen young people's range of observation and understanding of the life about them.

1. *The teaching of reading.* The essential principles of teaching as well as testing reading have been so well reviewed in the summary of investigations by Gray [20] and in the *Twenty-fourth Yearbook* of the National Society for the Study of Education,[21] that it seems necessary here only to mention the necessary conditions for work and leave the reader to those good sources. In the first place, the necessity for speed in reading to ensure comprehension and for testing both speed and comprehension before attempting assignments in any school subjects, has been sufficiently emphasized. Mr. Ira Davis of the Wisconsin High School, for example, starts junior high-school classes in general science with such measurements, and makes clear to slow and dull readers that they must get into good reading habits if they wish to keep up with their mates. It is part of the business of the English teacher, in high school as well as in the grades, to give such training as will make progress possible in all subjects.

The methods of work are fairly well understood. Segre-

[20] W. S. Gray, *Summary of Investigations Relating to Reading* (University of Chicago Press, 1925). See also Gray's addenda to this summary in the *Elementary School Journal*, Vol. 26, May, 1926, pp. 662-673, and Vol. 27, March, 1927, pp. 495-510. See also W. L. Uhl, *The Materials of Reading*, Chs. x-xii, especially pp. 243 *ff.*

[21] Public School Publishing Co., 1925.

gation of poor and of mediocre readers seems very desirable, and this can be done easily in a laboratory class.[22] The beneficial effect of developing speed can be aided simply by inciting pupils to read stories of breathless adventure and not pause for details. For the rest, the procedure of reading silently a great many selections and taking objective tests on their content is of great possible value; but this value, of course, depends on the nature of the questions asked. Obviously, memory questions are of little or no use, and mere quizzing on small factual or other details is little better. Questions need to be framed which direct attention to the larger organization of story or explanation—the central meaning of paragraphs and of larger units, the interpretation of cause and effects, and the like. Work such as Stone has begun with central-idea tests [23] is greatly needed, and a set of reading-ability promoters for high school would fill a genuine need. Various modern school readers which emphasize silent-reading for junior high school, and Lyman's *The Mind at Work* [24] for senior high school, are of value and should be more widely used.

The specific skills necessary in mathematics, domestic and natural science, and shop, are probably best developed in those classes. If comprehension tests were given frequently on problems and directions in mathematics, for example, much of the difficulty of teaching this subject would be discovered to lie in a lack of necessary reading skill, and the remedy could be applied at once. But this kind of reading in detail is needed in relatively few places—outside the schoolroom—chiefly in studying contracts and leases before

[22] See the discussion below, pp. 292-294.

[23] C. W. Stone, "Improving the Reading Ability of College Students," *Journal of Educational Method*, Vol. 2, September, 1922, pp 8-23. Summarized at length in Uhl, *op. cit.*, pp. 287-292. (See also Whipple's *College Reading Test* (Public School Publishing Co.).

[24] R. L. Lyman, *The Mind at Work* (Scott, Foresman & Co., 1924).

signing them and puzzling out income-tax blanks. More widely necessary in all situations outside the school is the power to get information quickly from several sources, to skim and select what one wants in book, magazine, and newspaper, and to grasp relations and central ideas with speed and assurance. Not enough material is available for developing these skills, but we may look for it in increasing amounts as teachers realize its fundamental importance for success in all school subjects.

2. *The aims of literature teaching.* The material on the principles and practice of literature teaching has been so well presented in various places [25] that only a brief summary of what may now be considered the best principles in this field seems to be necessary here.

The central aim of teaching literature is best stated by Bobbitt [26] and others as the broadening and deepening of real life experience in as many desirable ways as possible. The main objective is not "love of literature," although that no doubt will come of itself if the chief objective is secured. Anything that contributes to real, hearty, enjoyable experience in the literature class is therefore a good thing; and any seeking after factual knowledge, or memorizing, or reference work which gets in the way of this end is distinctly a loss.

The point of chief importance is that, in general, the less literature is taught by old-fashioned methods of analysis and dissection, the better. Reading in careful detail, which, as a matter of fact, is useful only in a very few situations in problem study-reading, has been too often the curse of

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[25] *Twenty-fourth Yearbook*, already cited, especially Ch. vi; E. S. Hanes and Martha J. McCoy, *Manual for Readings in Literature* (Macmillan Co., 1926); S. A. Leonard, *Essential Principles of Teaching Reading and Literature* (J. B. Lippincott Co., 1922); Uhl, *op. cit.*

[26] Franklin Bobbitt, *The Curriculum* (Houghton Mifflin Co., 1918), Ch. xviii.

literature teaching as at least two investigations have proved in detail.[27]

Nowadays, as far as the high school and particularly the junior high school is concerned, the best doctrine for literature-teaching appears to be that getting the central idea from at least fifty books is more advantageous than digging out fifty ideas from any one book. Librarians tell us that when children come into the public library for the first time, they have very bad habits of slow and painstaking reading, which unless corrected prevent them from getting any enjoyment out of books. But those children who persist and get the library habit soon break these ways of slowness and read fast enough to derive real pleasure from books.[28]

It is probable that bad habits of slow reading are actually fastened on pupils in the elementary school and the high school by means of too much reading aloud and too much detailed analysis. At any rate, sufficient speed is not developed by the ordinary practices. The most important discovery of the Army tests in connection with reading was not the proportion of people who could not read at all, but the enormous proportion of those who could read but practically never did. Reading obviously had never become a desirable thing to these men.

3. *Making the course in literature.* Studies of the actual responses of children to classics commonly read in high school, similar to those which are available for the grades, have not been made, but are now under way and promise to give much light on the problem of the course in litera-

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[27] See J. F. Hosic, *Empirical Studies in School Reading* (Teachers College, Columbia University, 1921). See also Nancy G. Coryell, *An Evaluation of Extensive and Intensive Teaching of Literature* (in the eleventh grade) (Teachers College, Columbia University, 1927.)

[28] Desirable conditions in literature-teaching are further presented under "Judging Conditions in an English Class." See below, pp. 286-294.

ture. A study which is to be published in the *English Journal,* by Miss Erna Conrad and Miss Katherine Hickok of the Cincinnati Public Schools, reveals the fact that eight classics which appear in the majority of the forty-four courses they examined are actually assigned, in various schools, to all six of the junior and senior high-school grades. Thus a pupil who moved around sufficiently often would have a chance either of reading *As You Like It* six times or of missing it altogether. It appears in forty of the courses. This is typical of the uncertainty of placement throughout our school courses, and parallels Miss Camenisch's findings about composition essentials. So far, we have nothing in particular but modes of such distributions to go on, and obviously this is not a satisfactory procedure.

The only adequate means of discovering what we need to know is to work out some combination of the means used in Dr. Cavins'[29] and Dr. Burch's studies,[30] and those of the *Winnetka Book List* investigation (American Library Association, 1926), and the like. By such objective means, we might find just what pupils do get from the literature they read, and in what grade they are likely to derive the most in both enjoyment and understanding from a given book. Incidentally, such a study, conducted by means of objective-question tests as well as measures of appreciation or liking, will also, it is hoped, furnish a basis for comparing methods of presenting these pieces of literature. Only on such a basis can we really do anything useful toward reducing the huggermugger of present literature placement.[31]

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[29] L. V. Cavins, *The Standardization of American Poems* (University of Chicago Press, 1928).

[30] Discussed by R. L. Lyman in *Elementary English Review,* May, 1924; Mary Crowell Burch: "Determination of the Content of a Course in Literature," *Genetic Psychology Monographs* (Clark University), Vol. IV, Nos. 2 and 3, Aug.-Sept., 1928.

[31] *Cf.* C. S. Crow, *Evaluation of English Literature in the High*

Certain pieces of literature should, no doubt, be read by all high school pupils. There is great gain, much needed in a democracy, from the possession of a common literary culture. We are not, however, at all certain as yet just what books should be included here, and we are much less sure about where in the school course they should be placed. The seventh and eighth grades in particular have been unfortunately overrun with decent but dull classics and bird and blossom poetry of solely middle-age interest which make no appeal whatever to most pupils and which probably help to close the doors of real literature to them. But with the wide reaches of excellent material now being made available, there is no excuse for merely dull and uninteresting literature at any stage. In particular, there is a need which the more modern collections of literature are beginning to recognize and meet for really humorous selections—not the conventional and rather solemnly heavy humor of the eighteenth century, but downright good fun which children can really enjoy.

On the other hand, there is a tendency to follow children's interests only, assigning in school the sort of cheap things they read outside—Braley and Edgar Guest "poems" and a term in a literature class on *The Girl of the Limberlost!* This, of course, is merely lying down on the job. We must find the best of true, simple literature, which children can understand if they care to and if they try, and help them to master that as a significant part of their experience of living.

The following list of readings by grades is adapted from the tentative report by the Wisconsin English Teachers' Commission on the Fundamentals of a Course of Study in English for the Six-Year High School. The list has been

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School (Teachers College, Columbia University, 1924). This monograph is summarized in Uhl, *Secondary School Curricula*, pp. 339 *ff.*; see also Uhl, *Materials of Reading*, pp. 46-160.

selected with the following aims in mind: (1) to lead pupils to read with various purposes and to understand what they read; and (2) to increase pupils' range and depth of experience through literature.

Seventh Grade

Pyle, *The Merry Adventures of Robin Hood* or ballads
Mark Twain, *Tom Sawyer* and *Huckleberry Finn* (for rapid reading)
A collection of poetry
Post Ring, Golden Numbers, Huber-Bruner *Poetry Book* 7, or Baker's *Second Book of Poetry*
Stevenson, *Treasure Island* (for rapid reading)
Andrews, *The Perfect Tribute*
Irving, *Rip Van Winkle*
Longfellow, *Tales of a Wayside Inn* (selections)
Nicolay or Tarbell *Boy's Life of Lincoln,* or Sandburg, *Abe Lincoln Grows Up*

Eighth Grade

Kipling, *Captains Courageous*
Lanier, *The Boy's King Arthur*
Whittier, *Snowbound* and selections
Irving, *Legend of Sleepy Hollow*
Old Testament Stories
Bulfinch, *Age of Fable* (selections)
Antin, *At School in the Promised Land*
Shakespeare, *Midsummer Night's Dream*
Old English Ballads (selections)

Ninth Grade

Poe's Tales (selections)
Iliad or *Odyssey* (selections—Murray trans. or Colum version)
Hale, *Man Without a Country*
Merchant of Venice
Teter, *One Hundred Narrative Poems* (selections)
Scott, *Talisman,* or *Ivanhoe*

Tenth Grade

Silas Marner
Tale of Two Cities, or *Westward Ho!*
Julius Caesar, As You Like It, Twelfth Night
Sohrab and Rustum (for rapid reading)

In one semester of this or, better, the Eleventh Grade, there should be a unit of American Literature (selections, not chronology, emphasizing chiefly the period from 1800 onward)

Eleventh Grade

Tennyson, *Coming of Arthur, Passing of Arthur, Gareth and Lynette,* with selections from Malory
Old English Ballads
Macbeth
Coleridge, *The Ancient Mariner*
Essays (Knickerbocker, Chamberlain, Tanner, etc., collections)

Twelfth Grade

Hamlet, Lear, or *The Tempest* and some modern plays
Lyric poetry (selections from Palgrave, with additional poems from Burns, Tennyson, Browning, and modern collections such as Gordon and King's, Untermeyer's, Forbes', or Wilkinson's)
Character novel: *Mill on the Floss* or *A Modern Instance*
Epic: W. E. Leonard's translation of *Beowulf*
Essays: *De Coverley Papers* (three or four selections), Emerson's *Self-Reliance*
For better students, selections from *The Canterbury Tales*

This list is extremely tentative and is based rather on courses of study now in existence than on knowledge of what pupils actually get from the literature they read. It is most probable that it will undergo drastic revision on the basis of experiments now current.

Judging conditions in an English class. The supervisor who hopes to appraise the quality of work in an English class, or the quality of English in any school class, is in need of fairly definite criteria for judgment. Pictures of what he might see in various classrooms and an estimate of

the probably efficiency of each procedure may be of assistance here.

1. *Conventional conditions.* First, the usual type of recitation may be considered. The teacher is asking questions on the assignment. Pupil after pupil, according to the approved technique of questioning, is roused to answer particular questions—the name of the pupil coming always after the question so that as many as possible will listen under peril of being caught napping. The rules for punctuation or for correctness in grammar, with illustrations, the rhetorical principles in the text, or any matter about literature forms or history may be under consideration. So many classes are conducted in this fashion that teachers are often judged efficient solely in proportion as they follow up approved techniques in asking their questions.

The clearest point to be noted about this procedure is its inefficient waste of time. Anybody acquainted with the technique of making objective tests and willing to devote a little effort to preparing them can, in from five to ten minutes of class time, get as many points covered as would normally be brought out in an entire recitation. Thus, every pupil is on record for the entire matter assigned, not for a chance-hit question or two, and the remainder of the hour is clear gain. No excuse for the question-and-answer recitation can answer the charge of its inefficiency.

The only activity which is justified in a period uniting the whole class is some sort of discussion or some sharing of experience—what Dewey calls a "social clearing house." And where such discussion is wanted, the objective test again stands out as a most useful instrument. Teachers report that they have repeatedly given opportunity for discussion or questions on an assignment or piece of literature and had very small result. But after they have asked a dozen or so pointed questions, designed to discover miscomprehensions and doubtful interpretations, the discussion im-

mediately following has been keen and eager. Each person has committed himself, and is therefore ready to defend his answer if possible. In tests of sentence structure like the Pressey or *New York Survey,* or of appreciation of poetry like the Abbott-Trabue, as indeed for any which does not ask for mere memorized facts, such discussion is the chief good. It is as different from the conventional recitation procedure as can well be; it is a genuine exchange of ideas and interpretations, and it has, in intensified form, all the values of old-fashioned post-examination quizzes. No classroom activity can be more fruitful, provided the teacher wisely allows relevant and sensible debate, and does not stop it by imposing his own answers. Objective tests composed of thought-questions are not merely to be graded and filed, but primarily used to stir up such debate.

2. *Substituting mastery for half-learning.* The idea of mastery as presented by Morrison [32] and Miller [33] is that decent intellectual habits and even reasonable morality are concerned in setting true essentials or basic principles, and then holding pupils, not for 70 or 75 per cent, but for real mastery of them. Miller's special contribution is that, besides the essentials for mastery by everybody, additional, thoroughly worthwhile work is necessary for the pupil who gets his mastery of the essentials early. This excellent idea suffers of course from the danger that teachers will pile up "busy work" for the good pupils, have them do purely perfunctory jobs, with emphasis on quantity and not on value and quality. Miller tries to guard against

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[32] H. C. Morrison, "Studies in High School Procedure: Direct and Indirect Teaching," *School Review,* Vol. 29 (1921), pp. 19-30; "Half-Learning," *ibid.* (1921), pp. 106-118.

[33] H. L. Miller, "Directing Study for Mastery," *School Review,* December, 1922; "Differentiated Assignments in the Wisconsin High School," National Society for the Study of Education, *Twenty-fourth Yearbook,* Part II (1925), pp. 52-57.

this danger by insisting that quality must count more than quantity in assignments or suggestions for work on the higher levels. One may suggest also, first, that, toward a grade of excellent, all projects should be devised largely if not entirely by the pupils themselves; and second, that even for those on the lowest level of accomplishment there should, wherever possible, be freedom of choice. By this scheme, usually called "contract-level assignments," [34] each pupil who attains mastery on the lowest level receives a passing grade or at most a grade of fair, and pupils who want higher standing do extra work of superior quality.

The alternative to this plan, where mastery is required, is to have pupils go through the prescribed work at a faster pace, putting more time on those subjects with which they have most difficulty in mastering fundamentals. This also has its advantages, and it would probably tend to help superior pupils finish their education earlier, not by a jerky system of skipping grades, but by a steady procedure comparable with that of the better students in Europe.[35]

3. *Class-work in composition.* Besides testing and discussion, the English classroom may be occupied with actual composition and criticism. Pupils may be giving oral themes or reading their own work, or the teacher may be reading the pupils' papers, usually anonymously, and the class discussing them. This process may vary in usefulness from zero, or even a minus quantity, to a very high percentage of efficiency. Generally speaking, the procedure of exposing a pupil's theme to be picked to pieces for minor matters of form or diction is futile, and often it is destructive. Every supervisor has been in classes in which not a sentence is spoken that is not set upon and reworded

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[34] For a full discussion of this matter see H. L. Miller, *Creative Learning and Teaching* (Charles Scribner's Sons, 1927).

[35] *Cf.* the quotation from Learned, pp. 14-16, and *Twenty-fourth Yearbook*, Part II, cited above—Washburne's discussion.

to suit the teacher or some equally censorious pupil. It has been repeatedly urged in this chapter that no effective teaching of the essentials of composition can be done except in a situation of communication paralleling real life—with an actually interested audience as well as a speaker who has something to give. The fault-finding policy of class heckling or red-ink correction is far from these genuine conditions.

A class in composition will be effective just in proportion to the genuineness of interest in what is presented and the helpfulness of questions which bring out the essentials of the matter. On such a basis, a class of this sort can develop such useful principles of organization and clarity of expression and discover such suitable conventions of form as we have already considered. A class in which presentation and criticism of compositions is going forward, then, should be judged first by its quality of genuine social communication.

A second important question is whether attention is centered upon one or two major issues of organization or expression or scattered over a dozen to fifty points. The worst weakness of many teachers who do make composition a genuine experience is that they do not succeed in limiting their attack to points of first importance, but correct in class and on pupils' papers everything they believe might be differently said. The result of this is of course critical indigestion. Nobody can attend at any one time to more than two or three principles so as to master and apply them; when more are cast at him, the essential as well as the nonessential become tangled in his mind, and he cuts the coil to prevent choking. There is no sense in omnibus correction; until teachers can learn to concentrate attention, to see all possible criticisms and betterments in perspective and resolutely postpone minor considerations, composition teaching cannot advance.

A composition class can well be judged, then, by the extent to which a very few matters of apparently real consequence in developing good expression are really kept to the fore, and minor errors and infelicities of diction or structure are passed over in silence. It is, however, worth while to observe whether the teacher keeps note of problems of expression which he does not at the time discuss. Some of these matters will prove valuable for individual conferences with pupils; a few may be important later for discussion or even for drill and practice material for all the class. The good teacher of English has in reserve matters of observed but not immediate importance, for use any dull rainy day.

4. *Class-work in literature.* Like the class in composition, the class in literature may be one of several things. It is to be noted that we are not here considering the class in silent reading or study, but that part of the school day which should always be set aside for enjoyable increase of experience through books. Many times, as in the excellent work described by Hanes and McCoy in their *Manual for Readings in Literature,* Chapter I, the class will be occupied in reading, each pupil for himself, or in discussing their reading quietly with the teacher or with each other. The teacher's direction will insure that they get something out of what they read; but each person's getting may well be different from each other person's, and it will not in general be tested by examination or even by invariably required reports, but what the pupil brought back may be demonstrated in discussions or in "promotive reports" to the class. Such reports should not, of course, summarize the book and thus spoil it for all other readers, but should tell briefly what the pupil found interesting or funny or enjoyable in the book, accompanied by specific illustration, and thus develop the interest of the class.

When pupils are reading a poem, the purpose of the

teacher should be to help each one find what the author put into the poem and what experience he can get out of it. The ballads, for example, a few of which can well be read, or better sung, in junior high school, the first plays which pupils read—and play-reading is a very difficult skill—the first lyrics, essays, and character novels which are attempted in the senior high school require a new type of approach; and this the teachers must be able to help pupils develop. There is need of discussion here of just what each one can see and hear and feel in the lines, of what the experience presented is, and of what the writer was specifically trying to do in the story or essay or poem.

A good literature class is a class in which each pupil brings in his contribution of what he finds in a piece of literature, and helps pass it around. Such a class, utterly different from the pecking and analytical recitations that most of us remember from high-school days, is of real value in opening out fresh experiences, giving pupils power over new and excellent ranges of literature and of living.

5. *A laboratory class in English.* There is still another sort of English class which needs to be described and interpreted—the laboratory period. This may vary indefinitely in value. Sometimes the teacher is actually out of the room, assuming that the class will guide and direct itself (and this assumption may be occasionally justified). Sometimes he is apparently present, but actually not taking part in the procedure; most supervisors have seen a large proportion of a class fumbling with a problem—some having it misstated and others not knowing how to begin it—while the teacher serenely sat or stood or busied himself otherwise. This of course is not teaching, whatever else it may be. And of course, no matter what the skill and directive power of the teacher, some of the pupils in any laboratory may be wasting time; but at any rate one may console oneself with the reflection that as much time could not

possibly be wasted in this sort of procedure as in the usual recitation, which is almost 100 per cent futile.

In a genuine laboratory period the teacher is far busier than in any other sort of work. For every pupil should here be at the work which is most necessary for him at the moment, and should be given guidance and criticism when he needs it. One boy may be trying to learn to write a decent and legible hand.[36] Another two may be testing each other on spelling or on a type of grammatical correctness such as the possessive forms of nouns. Some, having determined a subject for composition and made their plans, may be writing more or less busily; others, at a loss for a subject, may be consulting the teacher, or asking his help in making a rough plan before starting to work. Still other pupils may be revising and proofreading their work before submitting it. Those who need specific help in reading may be answering comprehension questions or using reference books. And a last group—the excellent students usually—having had their compositions and necessary form-tests accepted, may be browsing among the books at the library table or reading comfortably.

In such a scene the teacher's business is not so much to preserve order and industry as to guide it. Discipline and work can be secured by the simple device of imposing plenty of work—form-tests and so forth—on those who do not show at least the appearance of industry. The demands for help in choosing subjects, organizing material, deciding what form is acceptable or what structure or word is best, and checking finished work at the time when

[36] Herbert Quick in *One Man's Life* (Bobbs-Merrill Co., 1926) describes interestingly how he developed clear and good penmanship, without sacrificing individuality, by the simple expedient of demanding unmistakable legibility and penalizing heavily whatever was ambiguous. For high-school use this is certainly the best possible procedure, provided it is not carried into minute meticulousness of demand.

criticism is most potent, immediately when the work is done—all this taxes a teacher's energy and judgment.

One quite justifiable procedure here is what Dr. Pendleton calls "turning the class back on itself," getting the pupils who have finished an assignment in grammar or the like to help the rest who have not. Here is an opportunity for the excellent pupil to learn how to assist—not by telling but by asking directive questions. We have plenty of evidence to show that good high-school pupils learn to do this more quickly and often more efficiently than the average university seniors who are preparing to teach.[37] They gain at the same time an additional command over their subject which may be of great value.

Of course the final check must rest with the teacher, and besides, the helpfulness of excellent students must not be taken advantage of beyond where the work is useful to them. But the laboratory class of thirty or more students is likely to be too much for one teacher. Those who have not tried the plan at all should be advised to begin with only one period a week of such work and see how it goes. Preparation of materials for such a class and its competent guidance call for all a teacher has of energy and resource, but the experiment seems worth while in its enlistment of everything a class can give of individually fruitful work.

Equipment of the English classroom. For effective teaching of English, equipment is quite as necessary as for the teaching of science. In the first place, it is impossible to develop power in reading or a reasonable acquaintance with literature when books are few and mean and frequently, at that, second-hand treatises about real books. Whatever else must be sacrificed, the essential library

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[37] J. C. Tressler, "The Efficiency of Student Correction of Compositions," *English Journal*, Vol. 1, September, 1912, pp. 405-411. See also M. H. Bright, "Pupil Participation in Theme Correction," *ibid.*, Vol. 15, May, 1926, pp. 358-367.

facilities discussed in Chapter XIV are first in value and necessity to the teacher of English.

But the English classroom needs other equipment besides access to a good library. It needs a shelf or case of books. Many excellent readings—such, above all, as are listed as "fundamental readings" for junior and senior high school in "Reading for Realization of Varied Experience," [38] should be bought in duplicate so as to supply every English class with copies. H. G. Wells points out that many libraries have not yet discovered the invention of printing, but buy books in single copies only. Of course this is an unfortunate limitation, and restricts the English teacher unduly. Books are his chief professional equipment. Not less than $150 a year for each English teacher is a probable minimum allowance for the classroom library alone; with that wisely expended, the teacher is in a fair way to begin the teaching of literature with some hope of success.

Besides books, there is a large amount of excellent material for the illustration of literature, available without too great expenditure and very fruitful to use. Most of it is conveniently listed.[39] English songs on records for the school phonograph, good pictures, and a few maps are a genuine aid. From pictures pupils can often construct models of Elizabethan theaters or Norman castles for more graphic illustration.[40] Music programs illustrating the English ballads and many of the greatest lyric poems, which are not so vivid read as sung, will add greatly to the

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[38] S. A. Leonard, *Essential Principles of Teaching Reading and Literature*, Appendix II, pp. 370-437 (J. B. Lippincott Co., 1922).

[39] Jane Hilson and Katherine Wheeling, *Illustrative Material for High School Literature*, with a supplement on British materials by Dora V. Smith (H. W. Wilson Co., New York, 1923). See also Woodring and Benson—bibliography, p. 303.

[40] Martha Clay, "The Hatbox in Literature," *English Journal*, Vol. 5, December, 1916, pp. 680-683.

life of the literature class; these are most easily possible with such phonograph records as are catalogued by all companies.

In addition, generous bulletin boards for pictures, themes, and similar exhibits, to be changed frequently for interest, and one or two drawers of 9″ x 12″ files for composition, folders and the storing of pictures and pamphlets, are a real necessity. Finally, the best conditions for work require not seats fastened to the floor, but rather table-armchairs or movable desks, and at least one large table in the book corner where pupils may either write or read in comfort when they are not gathered for discussion or for directed work. An English room provided with such aids for real living and doing is a pleasant place, lending itself either to discussion groups, laboratory classwork, or the efficient taking of drills and tests, and only refractory to the unnatural activities of recitation.

Texts and drill materials. In general, while a textbook of composition is undoubtedly desirable for the beginning teacher and is a useful crutch for all those without originality, it seems better to counsel the experienced teacher in the senior high school to have pupils buy pads of drill material [41] and to have a good collection of textbooks on his desk. The remainder of the money for composition texts can probably better be used for good books to read. The original and experienced teacher always has a ready collection of composition subjects and pictures which start stories going; better still, he encourages pupils to make their own lists, and by generous suggestion "primes the pump" that starts the flow from their cisterns of experience.

In literature classes, a volume or two which contain the

[41] *Chicago Practice Tests* (The English Journal), *Uhl-Hatz Practice Exercises in English* (Macmillan Co., 1927); Easley Jones, *Practice Leaves in Fundamentals* (Century Co., 1927).

basic selections to be read by all the class seems best for most situations, but it will be a limiting influence unless generously supplemented by a great many other books. And of some of these, like *Ivanhoe* and *The Mill on the Floss*, which are too long to print in single volumes, it is necessary to have a copy for each pupil. Any edition will usually do provided it looks like a library book one would like to own, and is not cumbered with obstructive notes and comment. In every case, books for literature must be attractive. If they do not suggest pleasant reading experiences, but look like texts to be ground through, the inertia against any real enhancement of experience is too great to be overcome.

The cost and labor of English composition teaching. An essential study for all teachers and supervisors interested in effective work in English is the Hopkins report on *The Labor and Cost of the Teaching of English*, published by the National Council of Teachers of English.[42] As this report is difficult to obtain, the following extracts from the summary of "English Teaching in the High School" are given below:

According to the usual standards of method, amount of written work, and number of pupils assigned, the theme-reading labor of a secondary school English teacher is, like that of the college teacher, two and a half times the limit of physical endurance without undue strain.

The amount of written work required of each student averages about 400 words a week.

Written exercises can be criticized and corrected by an instructor at the average rate of about 2,000 words an hour.

The limit of full efficiency and the beginning of undue strain in theme reading is, as in college, about two hours a day or ten hours a week.

The average number of pupils assigned to a high-school com-

[42] A few copies may still be bought at 10c. each from the author, Prof. Edwin M. Hopkins, University of Kansas, Lawrence, Kansas.

position teacher is above 125, requiring in accordance with other standards and conditions named more than twenty-five hours of theme reading weekly. This number of pupils is greater than the corresponding assignment in any other high-school subject.

The labor of English teachers becomes much heavier (25 to 150 per cent) than that of teachers of other subjects, even when high efficiency is necessarily sacrificed to lessen that labor.

The results of their work are unsatisfactory and are made the subject of general complaint.

Necessary or recommended changes are:

To make the number of pupils taught instead of the number of teaching hours the standard of teaching duty. Without other changes that number would have to be for maximum efficiency about 50 to the instructor, depending on the conditions in individual cases.

As to the comparative cost of teaching high-school English and other high-school subjects:

In secondary schools, as in colleges, English in proportion to the number of pupils taking it costs less than any other subject, and the unit teaching cost of one pupil for one year is about seven dollars. The next subject in order costs 14 per cent more.

In average student enrollment, English is 25 per cent above any other subject.

To reduce the number of pupils assigned to an English instructor to the upper limit of efficiency might require an increase in unit cost of 65 per cent, and would make the total budget cost of English greater than that of any other subject, but its average unit cost would still be 10 per cent below that of the average unit cost of scientific and vocational subjects.

In view of this report, an extreme maximum for each English teacher should be double the recommended number, one hundred pupils, provided approximately half the time is supposedly devoted to literature. This is obviously the greatest load that can possibly be carried with real efficiency.

Judging results of English instruction. In the tentative report of the Wisconsin Committee on a Course of Study,

the success of English instruction is rightly judged chiefly by the actual written work of pupils as graded by a composition scale. Since the use of such a scale apparently reduces disagreement in teachers' ratings and makes comparisons between work of schools and groups of pupils possible, it seems worth while to urge that teachers take the needed time for mastering its use. It must, however, be stated specifically that scale-grading of a single theme is far from furnishing a real measure of what an individual pupil can do. Furthermore, it is the height of folly to attempt to use the scale more than three times in the course of a school year, since the improvement in pupils' compositions even from year to year averages only one-half scale step. The danger that teachers will use the better scale specimens as examples to be imitated can readily be perceived and should be avoided.

The arguments for eliminating all matters of pure convention in attempting to grade compositions on a scale have been presented elsewhere.[43] Of course the boundary between conventions of form and matters of composition quality must be defined rather arbitrarily; but spelling, pronunciation, penmanship, and manuscript form, such arbitrary laws of punctuation as sentence separation and the pointing of series, and probably conventional errors in grammar such as "you was" and "have saw," may clearly be considered as form only. This leaves the teacher, in attempting to grade for composition quality, free to center attention on the ideas and their organization and on the effectiveness of their presentation in words and sentences. Much difficulty with grading children's themes, and particularly both injustice and wrong emphasis, may be avoided if the grades for matters of form and matters of composi-

[43] S. A. Leonard, "A Scale of Composition Quality Only," *English Journal*, December, 1925. The scale is sold by the National Council of Teachers of English (15c.), and the proceeds are used for Council Research.

tion quality are kept separate. If both are satisfactory, an average of the two may be used, but where either one is below a minimum standard, a passing grade should in general not be given.

Willing's study [44] apparently proves once for all that no single test or even group of tests is a valid measure of any one pupil's probable achievement in composition form. The only sure procedure seems to be an analysis, reënforced by the most practical tests, of the difficulties in a series of four or five compositions. This is, of course, what each teacher of English must actually do in her classroom work.

Nevertheless, there is real value in such tests as means of assessing the powers and difficulties of a whole class; they are an effective means of arousing attention to form an interest in its mastery: and, as Willing showed in an important experiment,[45] their use proves to be a better means of teaching forms than the writing and correction of compositions. The value of such tests as are listed at the end of this article, tests which are really concerned with essentials of English usage, is well established. Teachers will do well to use them for establishing necessary forms. They can then give attention in the criticism of compositions to the elements of composition quality, while they require resolutely the use of forms already mastered in tests. As measures of class progress in forms, the tests are of proved value, and their results may be used as part of a standard of achievement.

Results in reading can best be measured by the usual reading tests, and it is at least possible that the present medians of reading achievement for the Thorndike-McCall test for example can be set as minimum standards under proper conditions of instruction.

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[44] M. H. Willing, *Valid Diagnosis in Written Composition* (Teachers College, Columbia University, 1927).

[45] Published in summary in *Journal of Educational Method*, Vol. 6, June, 1927, pp. 449-450.

Achievement in literature is now chiefly gauged by the amount of pupils' reading, and its quality; but many possibilities of objective measurements in this field have been suggested by such tests as the Abbott-Trabue Poetry Tests,[46] the Logasa-McCoy (Public School Publishing Company), and partcularly by Ruch's "Improvement of Written Examinations" (Scott, Foresman and Company), and the objective tests recently developed by M. W. Moe, West Division High School, Milwaukee, and now in process of standardization. Real measurement both of grasp of the experience presented in books and of pupils' personal reactions may presently be made sufficiently exact to enable us to set standards in this field also. This is, of course, a delicate matter, and one in which a misstep might be most unfortunate. It would be highly undesirable if standardization of literary tastes, for example, were attempted; but, as in using composition scales, individuality is fortunately too strong to be seriously threatened in this field.

Keeping up with the literature of English teaching. The one indispensable aid for teachers of English and for administrative officers who are interested in the developments in the teaching of English in high schools is, of course, the *English Journal*.[47] Not its least value is the reviews and abstracts of all articles bearing upon the teaching of English, and of scientific studies and committee reports. The subscription price to this magazine includes membership in the National Council of Teachers of English and the cost of sending out such reports and studies as are made by its committees, though most of these are summarized with sufficient fullness in the *Journal* itself. The meetings of the Council since its beginning in 1911 have

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[46] See "A Measure of Ability to Judge Poetry," *Teachers College Record*, March, 1921.

[47] Published at 6705 Yale Avenue, Chicago, Ill. Subscription price, $3 a year.

been the one chief source of ideas and power in investigating and bettering the teaching of English, and its work is obviously only beginning.

In addition, the references listed below, several of which as noted contain summaries and bibliographies of scientific studies and committee reports, probably furnish the best help for the teacher in service and his supervisory officers. The alertness of interest of the English teacher can be very well gauged by his knowledge of this sort of resource for helping him to do his work better. The publication of various local English associations such as the *New England Leaflet* (A. B. De Mille, Winthrop, Mass., $2.00) and *Tri-State English Notes* (published by the English Teachers' Associations of Iowa, Minnesota, and Wisconsin, G. E. Teter, State Teachers College, Milwaukee, $1.00), are also of great value.

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Composition Scales

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Thorndike Extension of the Hillegas Scale (Bureau of Publications, Teachers College, Columbia University, New York City).

Scale of Composition Quality Only (National Council of Teachers of English, 6705 Yale Ave., Chicago, Ill.).

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The Briggs English Form Test (Bureau of Publications, Teachers College, Columbia University, New York City).

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Appreciation Tests

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See G. M. Ruch's *Improvement of Written Examinations* (Scott, Foresman & Co., 1925).

CHAPTER VII

THE SUPERVISION OF SOCIAL STUDIES

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Social science deals primarily with human relationships. It is concerned with social environment in much the same manner as physical science is concerned with natural environment. It treats of human beings as workers and organizers, depending upon and associating with one another in varied political, economic, and social activities.

As ordinarily classified, the social studies embrace economics, sociology, geography, history, ethics, and political science. As offered in junior and senior high schools, the social studies are usually limited to history and civics, with, unfortunately, only occasional provision for geography. Consequently the present chapter will be confined for the most part to a consideration of problems of supervision involved in the teaching of history and civics.

Objectives of the social studies. The first essential for effective instruction and supervision is a clear understanding by both teacher and supervisor of the purposes in view. Many statements of the aims that should govern the teaching of the social studies have been made. As serviceable goals the main ends may be summarized briefly as follows: first, to develop social attitudes and social conduct; second, to inculcate an understanding of social environment, its character, needs, and problems. In a word, the end in view is to develop intelligent, unselfish, right-minded citizens.

Put in more definite terms the major aims in the

teaching of the social studies may be set forth as a series of propositions:

1. *To convey an understanding of the nature of human society, especially in its aspects of association and control.*

2. *To establish a sense of evidence.* This necessitates an appreciation of the nature of social science and the ways in which it is discovered. A sense of evidence involves a critical attitude toward what is read and heard. It implies a rejection of superficial opinions and unsupported generalizations.

3. *To cultivate an attitude of tolerance or openmindedness.* Tolerance is an inevitable corollary of a search for evidence. Tolerance is inherent in a genuine desire for truth. Tolerance is shown in an endeavor to understand both sides of controversial questions; it is reflected in the expression of suspended judgment.

4. *To develop a sense of continuity.* A sense of continuity involves a realization of the unity of human experience, of the truth that to-day is the sum of all yesterdays, that no one can understand the present except by the light of the past. A sense of continuity rests upon an evolutionary conception of life. Such a conception does not necessarily imply progress in the sense of human betterment; it will, indeed, often reveal social retrogression.

5. *To create or stimulate a liking for the social studies.* The best evidence of the achievement of this objective is the voluntary reading, study, and discussion of social-science literature and problems.

6. *To arouse desire and develop ability to contribute helpfully to the promotion of the common welfare.*

But a mere statement of objectives is in itself of little value in either teaching or supervision. The important matter is the realization of the objectives. Unless the aims are utilized constantly in conference and discussion; unless they are kept in mind in the selection and organization of

material; unless they are adhered to as standards by which to evaluate courses of study, classroom procedure, and teaching technique, they will prove fruitless. When used as suggested, however, they will serve as valuable aids in the betterment of instruction.

The selection and organization of courses. 1. *Sequence of courses.* There is general agreement that social science should serve as the core of the curriculum. In 1920 the National Association of Secondary School Principals went on record as favoring the inclusion of the social studies in the program of every student "in each of the years from the seventh grade through the twelfth."[1] Since the foregoing action was taken, all progressive schools have adopted measures to make the recommendation operative.

But although there is general agreement that the time devoted to the social studies should be increased, wide variation exists in the character of the courses that are provided. In some communities unified courses in geography, history, and civics are offered in the junior high school while the conventional subjects are given in the senior high school. In some schools the conventional subjects are taught throughout the secondary grades; in others, unification is favored in all grades.[2] In some communities geography is taught in the seventh grade, American history in the eighth grade, community civics in the ninth grade, world history in the tenth grade, American history in the eleventh grade, and elementary economics, political science, or problems of American democracy in the twelfth grade. In other schools the social studies are offered in parallel courses.

Amid such variation it is impossible to make recommendations with certainty that the recommendations will meet the needs of all communities. A plan that has often

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[1] *School Review*, Vol. 28 (1920), pp. 294*f*.

[2] On unification of the social studies see *Fourth Yearbook* of the Department of Superintendence (1926), pp. 324-329.

been successful in the junior high school is to provide in each grade some time for community civics (say two days a week) and to give the balance of the time (three days a week) to history, with geography as an integral part of the work in both civics and history. Still better, perhaps, is the plan of running all three abreast. In the senior high school the time may be employed most advantageously, perhaps, by devoting one year to a survey of world history, one year to American history, and one year to elementary economics, political science, or problems of American democracy. As a substitute for the work suggested for the last year, courses in American political institutions and economic society may be given.

As a working program a sequence of courses is suggested below (see pages 310ff.). The work in United States history may be given during the seventh year and the first half of the eighth year; the work in community and vocational civics during the last half of the eighth year and all of the ninth year. Or the work may be given in parallel courses, with an equal division of the time between them. A third option is to organize the material into half-year courses and offer the civics and history in alternate semesters. Local conditions will usually determine the preferable method.

2. *Content of courses.* The content of courses is of much greater importance, however, than their sequence; a fact that is often discerned more clearly by a supervisor than by a classroom teacher. In determining the content the supervisor may, and frequently should, exercise paramount influence.

Selection and organization of material may proceed upon either a telescopic or a unitary basis. In other words, subject matter may be chosen either for its informational value or for its interpretative worth. If the telescopic method is followed, a course tends to become a mass of encyclopedic

details and generalizations, making heavy demands upon the memory and possessing slight educative value. If the unitary method is used, a course becomes a series of broad, meaningful, teachable units, each consisting of details selected for their illustrative rather than for their intrinsic value.

Thus, under the unitary plan it is more important, in selecting the material for a unit like "The French Revolution," to include the fact that Marie Antoinette wore on the average two pairs of shoes a day than to incorporate the details of Neckar's financial plan. Marie's shoes form a concrete example of the royal extravagance that played so great a part in causing the French Revolution; they help the student to *understand* the movement; they have *interpretative* value. But Neckar's financial plan throws little light on the causes of the French Revolution; it has slight value in explaining the character of the movement; it has little more than informational value; it is largely mere erudition. Efficiency of teaching would be promoted if supervisors occasionally requested teachers to explain in writing their reasons for including given data in a course.

The material suggested in the units comprising the following courses has been chosen on the unitary basis. Each unit will ordinarily require from two to five weeks of study, varying with the character of the work and the capacity of the group. Although with few exceptions the units have all met the test of classroom use, they should be regarded as tentative, not final. To serve the needs of different schools all the courses and most of the units will require revision and modification in accordance with the time available, the varying capacity of the pupils, the extent to which supplementary reading is utilized, and the teaching procedure employed. The best courses come from the joint efforts of teachers and supervisors. Those that follow may, however, prove suggestive.

United States History

1. How America Has Been Peopled
2. Why We Have English Institutions
3. How America Became an Independent Nation
4. Launching the National Government
5. Testing the National Government
6. Manifest Destiny
7. The Struggle over Slavery
8. How Americans Won the West
9. The Coming of Big Business
10. How the United States Became a World Power
11. The Winning of the Ballot

Community and Vocational Civics

I. *Community Life*

1. How We Live Together
2. The Family and the Home
3. The School and Education
4. The Church and Religion
5. The Neighborhood and the Community
6. The Nation and Our Country
7. The World and Our Neighbors in Other Lands

II. *Community Welfare*

8. Safeguarding Health
9. Providing Safety
10. Establishing Protection against Fire
11. Maintaining Law and Order
12. Providing Enjoyment and Recreation
13. Planning and Beautifying the Community
14. Aiding the Handicapped

III. *Government and Citizenship*

15. Ruling Ourselves
16. Making Law
17. Enforcing Law
18. Applying Law

19. Paying the Bills
20. Selecting Our Officials
21. Being a Good Citizen

IV. *Industry and Business*

22. Making a Living
23. Saving and Thriving
24. Buying and Selling
25. Transferring Goods
26. Sending Messages and Distributing News
27. Working Together

V. *Occupations*

28. Choosing One's Work
29. Gaining a Living from the Earth
30. Manufacturing and Building
31 Transportation and Shipping
32. Merchandising and Banking
33. Serving the Public
34. Working for the State
35. Succeeding in One's Work

Survey of World History

1. Primitive Man and Human Beginnings
2. How the Ancient Egyptians Developed Religion, Science, and Art
3. The Hebrews and Their Religion
4. The Phœnicians and Their Commerce
5. How the Greeks Enlightened the Ancient World
6. How the Romans United the Ancient World
7. How Feudal Europe Undertook the Crusades
8. The Renaissance and Exploration
9. The Reformation and Religious Tolerance
10. The Coming of the Factory
11. The French Revolution
12. The Failure of Reaction
13. The Development of Nationality
14. How Europe Expanded throughout the World
15. The Overthrow of Autocracy

American History

1. The Awakening of Europe
2. Finding a New World
3. Occupying America
4. The Struggle for Control of North America
5. The American Revolution
6. The Establishment of the Nation
7. The Westward Movement
8. The Slavery Controversy
9. The Economic Revolution
10. The Agrarian Crusade
11. The Growth of Democracy
12. The Passing of Isolation

Problems of American Democracy

I. *Economic*

1. The Standard of Living
2. The Production of Goods
3. The Apportionment of Income
4. The Problem of Capital and Labor
5. The Conservation of Natural Resources
6. The Control of Big Business

II. *Political*

7. The Enforcement of Law
8. Municipal Government
9. The Maintenance of Government
10. Political Parties and the Ballot
11. Peace and War

III. *Social*

12. The Problem of Immigration
13. The Race Problem
14. The Care of Dependents and Defectives
15. The Crime Problem
16. The Conservation of Human Resources

ELEMENTARY POLITICAL SCIENCE AND ECONOMICS

I. *Political Science*

1. Government under Law
2. The Making of Law
3. The Enforcement of Law
4. The Administration of Justice
5. The Rule of the People

II. *Political Economy*

6. Human Wants and Human Production
7. The Exchange of Goods
8. The Apportionment of Income
9. The Maintenance of Government
10. Rights and Duties of Citizenship

AMERICAN POLITICAL INSTITUTIONS

1. Liberty and Law
2. How Our Governments Developed
3. Making Law
4. Enforcing Law
5. Applying Law
6. Meeting Government Expenses
7. Ruling Ourselves
8. Citizenship

ECONOMIC SOCIETY

1. Why People Work
2. How We Produce Goods
3. Buying and Selling
4. Facilitating Exchange
5. Dividing the Product
6. Saving and Conserving
7. Managing One's Income
8. Earning a Living

Methods of teaching. An important part of the supervisor's work is that associated with classroom visitation.[3]

[3] On visitations see Anderson, Barr, and Bush, *Visiting the Teacher at Work* (D. Appleton & Co., 1925), pp. 56-75; F. W. Johnson, *Administration and Supervision of the High School* (Ginn & Co., 1925), pp. 339-358.

Ensuing conferences may become sources of genuine inspiration and helpfulness, if a coöperative relationship has been established between supervisor and teacher. If visitations and conferences are to result in the improvement of instruction, mutual understanding and agreement on objectives, courses, and teaching procedure need to prevail. To provide constructive suggestions of this character, a few widely used methods of instruction will be described and evaluated.

1. *The daily assignment method.* The conventional method of teaching the social studies is through the daily assignment of lessons that pupils are to prepare, usually outside the classroom, and upon which they are to recite the succeeding day. Success in the daily-lesson plan requires, first, that the work of the day be linked with that which went before and, second, that relationships be established with the work which is to follow. In the next place, the lesson of the day should always be centered about one event, measure, policy, or topic; the parts into which the lesson falls should be closely knit together, and the time available should be distributed among the various phases of the lesson in accordance with their relative values. In short, the lesson should be governed by the principles of unity, coherence, and proportion.[4]

To obtain the best results it is necessary to make every minute count. Maps must be at hand, pictures and models readily accessible, work materials ready for distribution. Routine phases of the recitation need to be standardized: the review, the summary, and the assignment should each have a regular time in the lesson plan.

In general, the assignment of the work for the following day may advantageously receive first attention; when made at the end of the period, the assignment is often given in

[4] See R. M. Tryon, *The Teaching of History in Junior and Senior High School* (Ginn & Co., 1921), pp. 5-7.

such haste as to result in misunderstanding and unsatisfactory preparation.[5] When at all possible, assignment sheets should be mimeographed in the high-school office. An arrangement of this kind causes teachers to give more thought to the preparation of assignments, reduces errors and misunderstandings by pupils, assists the supervisor in keeping in close touch with the work, and effects an important economy in classroom time. Not the least merit of the arrangement is the prevision and advance preparation of work that the plan necessitates on the part of the teacher. When lesson assignments are mimeographed in the office, instructors find it impossible to conduct their work in a haphazard, unsystematic, day-by-day manner; they must perforce give attention to the work in the offing. Improvement in teaching is bound to follow.

An adequate assignment informs the pupil concerning what is to be done, how to undertake the task, the standard of achievement expected, and the references in which to find material. The assignment should contain the lesson title, the study topics that are to serve as the basis of sustained recitations, a number of thought questions or problems on the most significant aspects of the lesson, and definite references to varied types of material. The following assignment, which was preceded by a lesson on "Early History of the Tariff," will serve as an illustration:

SOUTH CAROLINA AND NULLIFICATION

A. *Study Topics*

I. Grievances of South Carolina
II. The Webster-Hayne Debate, 1830
III. The Tariff of 1832 and the Ordinance of Nullification
IV. Action of Jackson and Congress

[5] On the assignment see G. H. Betts, *The Recitation* (Houghton Mifflin Co., 1910), pp. 107-118.

B. *Study Questions*

1. How did a debate on western lands lead to a discussion of nullification by Hayne and Webster? (This is a hard question; can you solve it?) What, in your opinion, was the chief result of the Webster-Hayne debate?
2. Summarize the argument justifying nullification; the argument against it.
3. In the struggle between South Carolina and the National Government which won? Are you sure?

C. *Study References*

I. Fite, *United States History,* pp. 270-273.
Muzzey, *American History* (Revised), pp. 229-231.
II. West, *American History and Government,* paragraphs 304-307.
Halsey, *Great Epochs,* Vol. 6, pp. 20-30 (from Roosevelt's *Life of Benton*).
Fish, *American Nationality,* pp. 197-208 (for those wishing a thorough, but rather difficult account).

Under the plan set forth the teacher first distributes the mimeographed sheet containing the assignment for the next day with such comments as may be desirable concerning the method of attack, the points deserving emphasis, the standards to be attained, notes to be taken (if any), and the character of the references. In the assignment given above pupils were expected to study at least one reference in each of the two groups (shown by the roman numerals). It should be added that the citation of references by groups, plus the requirement just mentioned, gives variety to recitations, leads to wide reading, and enables a small number of books in duplicate to serve a large number of pupils.

After the assignment is made, the lesson of the preceding day is reviewed by a pupil, or by the teacher; occasionally, for variety, it is well to have a question-and-answer review. Next in order is a series of sustained recitations, or floor talks, on the study topics. Pupils are informed that they

are expected to incorporate in their talks the answers to any of the problems that are germane to the study topic upon which they are to recite. The last step in the recitation is the summary of the lesson by the teacher or by a member of the class.

The floor talks mentioned above call for additional comment. At the beginning of the year the teacher, in explaining the assignment and plan of procedure, tells the pupils that they are to prepare their material so as to be able to come before the class and, without the help of outline or notes, give sustained recitations upon the review, the study topics, and the summary. Floor talks ordinarily occupy from three to ten minutes. At the conclusion of a talk the pupil usually asks, "Are there any questions?" He then proceeds to the best of his ability to answer the inquiries that may be made. Comments by both classmates and teacher on the character of the floor talk from the point of content, organization, and delivery may advantageously complete the activity.

When the plan described above is first introduced, the teacher will frequently need to assist pupils to select and organize material for the floor talks. Boys and girls who have been accustomed to giving short, fragmentary answers in reply to memory questions are usually quite unable to think in a sequential, connected manner and, hence, find it impossible to present a subject in a fluent and orderly talk. But if the teacher is patient, if he is skillful in showing by illustration and example how to organize thought material, pupils will gain power not only in oral expression but also in logical thinking.

2. *Individualized instruction.* Various methods of individualized instruction are in operation in different parts of the country. One form is that used in South Philadelphia High School for Girls, a school organized on the Dalton plan. There every pupil is given assignment sheets cover-

ing a month's work. On each assignment appears both the required and the elective work, the latter being expected of all pupils who desire to secure more than the minimum mark or grade.

When pupils complete the required work, evidence of which is the ability to answer the fact questions on the assignment sheet, they are permitted to begin the elective work. After all have finished the required exercises, group conferences are held to allow opportunity for explanations, expression of opinion, and tests. A sample assignment sheet, somewhat abridged, is given below.[6]

REPUBLICAN POLICIES, 1900-1912

Bibliography: Text; *Encyclopedia Britannica; Life and Letters of Walter H. Page;* PAXSON, *The New Nation;* SINCLAIR, *The Jungle;* STEFFENS, *The Shame of the Cities;* TARBELL, *The History of the Standard Oil Company;* THAYER, *Theodore Roosevelt;* WILSON, *The New Freedom.*

A. Required: BEARD, Ch. xxi, pp. 507-534
   1. Describe the personality and early career of Roosevelt.
   2. Foreign Affairs.
      (*a*) What stimulated interest in the construction of the Panama Canal? Note the provisions of the Clayton-Bulwer Treaty. How did the Hay-Pauncefote Treaty alter it? What were the two possible canal routes? What was the fate of the Colombian Treaty? Tell how Roosevelt secured a cession through Panama.
      (*b*) What part did Roosevelt play in international affairs in 1906?

[6] Alma Grace Hamilton, "A Classroom Procedure in American History under the Dalton Plan," *Historical Outlook*, Vol. 17 (1926), pp. 117-119; see also Bessie L. Pierce, "An Experiment in Individual Instruction in History," *ibid.*, Vol. 10 (1919), pp. 86-87; and Carleton W. Washburne, *Results of Practical Experiments in Fitting Schools to Individuals*, pp. 14-25, 33-41, 102-107.

(*c*) What rights did Santo Domingo give up to the United States? What questions arose out of the second Santo Domingo treaty?

(*d*) Give Roosevelt's part in the second Hague Conference.

(*e*) What was the purpose of the tour of the fleet?

(*f*) What decision was handed down by the Supreme Court in the Insular cases? How were Porto Rico and the Philippines governed until 1916?

(*g*) Why was the United States morally bound to give Cuba her independence? Pp. 491-492. List the provisions of the Platt Amendment. Why were troops landed in 1906?

3. Domestic Policies.

(*a*) What was Roosevelt's view of the Constitution?

(*b*) Pp. 519-523, 536-538. List problems to be faced (reference on muckraking in elective, No. 4).

(*c*) Give provisions of the Hepburn Bill; also the Newlands Act.

(*d*) What prosecutions did Roosevelt make under the Sherman Anti-trust Law?

(*e*) How was Roosevelt's view of the Constitution shown in the coal strike of 1902?

(*f*) What parts did Roosevelt and Bryan play in the election of 1908? What effect did the Payne-Aldrich Bill have on the Republican Party? What amendment was passed? Explain the rise of the Progressive Party, its organization, and Roosevelt's supplanting LaFollette as leader. What dispute arose in the Republican convention? On what things did Mr. Wilson make his campaign in 1912?

B. Electives

1. *Theodore Roosevelt,* Ch. i and Ch. vi are especially fine on Roosevelt's life before he became President. Thayer, Chs. i-x.

2. Read account of the building of the Panama Canal in *Encyclopedia Britannica.*

3. Big Business. What is a monopoly? What is a holding company? What was the Interstate Commerce Law on combination? What was the accusation in the Northern Securities Case? What was the Elkins Law? Paxson, pp. 295-298.

4. *The Shame of the Cities,* "Philadelphia, Corrupt and Contented," pp. 193-229. What was the nature of the population in 1903? What was the Bullitt Law? What fraud was there in voting? Who controlled the Republican machine? What corruption existed in the public school system and the leasing of city property? What is meant by the "apathy of the people"? (Other references on muckraking: *The Jungle* and *The History of the Standard Oil Company.*)

3. *Mastery technique.* The traditional method of teaching history, as pointed out above (see page 314), was the assignment of work in daily-lesson units. During recent years the tendency has been increasingly toward the organization of subject matter in large units such as have been suggested in the courses outlined on pages 310ff. In such cases each unit requires, as a rule, from two to five weeks of study in accordance with methods of instruction that have been more or less clearly defined and systematized. The mastery technique, which is followed in the University of Chicago High School, will serve as an example of the plan.[7]

The system of instruction to be described below derives the name "mastery" from the endeavor that is constantly made to see that every pupil understands or rationalizes the principles, processes, and movements that comprise the course. To further the end in view all phases of the instructional procedure are governed by the following formula: teach, test, diagnose, adapt, teach again. Accordingly, each step in instruction is followed by tests designed to reveal whether understanding has taken place. If negative results appear, the causes of the difficulty are diagnosed, instructional procedure is modified, and reteaching ensues. Instruction is thus continued until the unit is mastered.

The teaching cycle on each unit consists of the following

[7] See also the discussion of procedures in Ch. i.

five steps: exploration, presentation, assimilation, organization, and recitation. In exploration, or preparation, the teacher questions or tests the class by word of mouth or by written exercise, or both, to find out what pupils already know about the unit. By so doing the teacher discovers the foundation on which he must build and at the same time has an opportunity to arouse an interest in the movement or principle to be studied. In presentation, the teacher sketches the unit in a talk of from fifteen to twenty-five minutes, thereby orienting the pupils in the new enterprise and enabling them to tackle their work in an intelligent and expeditious manner. In assimilation, the pupils begin the active study of the unit; during the time devoted to this phase of the work they are engaged in the activities described below while the teacher is occupied in guiding their study and in offering suggestions when such are needed. In organization, the members of the class are required to prepare, without aid from notes or books, an orderly, systematic analytical outline of the entire unit. In recitation, the last step in instruction, the pupils present to the class in oral or written form a connected, sequential exposition of the unit as a whole or of some particular phase of the unit.

No time is set in advance for the completion of a unit, but from ten to twenty-five days are ordinarily required. In general, the time is distributed among the different steps in the procedure as follows: exploration, one day; presentation (including re-presentations), two days; assimilation, ten to fifteen days; organization, one day; recitation, three days. A pupil who completes the minimal essentials in advance of the group is encouraged to undertake a supplementary project along the line of his own intellectual interests. The result of such activity usually takes the form of a well-organized, carefully written paper supplied with footnote citations and annotated bibliography.

As a guide to the work during assimilation pupils are given mimeographed sheets containing the minimal essentials of the unit, a list of the references in which helpful material may be found, and suggestions for supplementary enterprises. The minimal essentials include the concepts, incidents, and details the assimilation of which is regarded as contributory to the mastery of the central theme that constitutes the unit. The nature of such material as well as the character of the voluntary projects is shown below. Limitations of space prevent the inclusion of the references. The example is the fourth unit in the course in elementary political science (see page 313).

THE ADMINISTRATION OF JUSTICE

A. Minimal Essentials

1. The meaning of justice and its relation to liberty and law.
2. The chief functions of courts: decision upon the facts in a case; decision upon the violation, meaning, and constitutionality of laws.
3. Kinds and organization of courts: kinds—as to function (trial, law), as to origin (national, state); organization of the national judiciary—district courts, circuit courts of appeals, Supreme Court of the United States; organization of the state judiciary—municipal, county, appellate, Supreme; appointment, terms, and removal of judges; relations between national and state courts.
4. Procedure in administering justice: grand jury; petit jury—selection, work; parties to case; conduct of case—evidence, cross-examination of witnesses, charge of judge, verdict; execution of decision.
5. Bulwarks of liberty before the courts: writ of *habeas corpus;* jury trial; prohibition of repeated jeopardy for the same offense; right of appeal.
6. Problems of and dangers to the judiciary: corruption and intimidation of courts; subservience to popular influence; delays in administering justice; practical inequalities before the courts; defects of the jury system.

B. Supplementary Projects
1. English judicial organization and procedure
2. The use of the injunction
3. The use of the mandamus
4. The McCullough *vs.* the Maryland case
5. The Dartmouth College case
6. The Jackson-Marshall controversy
7. The recall of judicial decisions
8. The recall of judges
9. The special federal courts
10. The children's court

In the mastery-technique system of instruction the classroom is regarded as a laboratory. It is equipped as a place for work, with maps, charts, pictures, bulletin boards, book shelves, work tables, filing cases, and writing materials. The bookcases contain atlases, bulletins, pamphlets, dictionaries, government reports, and several hundred volumes containing material on the unit upon which the class is engaged. The atmosphere and equipment of the room suggest work rather than talk.

Class periods are primarily for study, individual consultation, and group conference. During assimilation all pupils are, as a rule, at work on the same unit. Some are occupied in making outlines or summaries; others are employed in the preparation of maps, graphs, and diagrams; some are engaged with reading and study. The occupation of a pupil depends upon his needs, his interests, and the progress he has made in the unit. An excerpt, slightly altered, from an article previously published pictures the usual conditions in the classroom.[8]

Ordinarily the classroom presents a scene of varied activities. The greater part of the students are studying and writing at the work tables. Two or three are having a quiet conference on some moot point. Others are comparing notes or outlines of

[8] H. C. Hill, "Laboratory Work in Civics," *Historical Outlook*, Vol. 16 (1925), Ch. iii., pp. 110-113.

some phase of the work. One student may be busy at the dictionary, hunting for the explanation of some phrase or term; another may be consulting an atlas; a third may be sharpening his pencil or filling his fountain pen; a fourth may be making a map or preparing a graph; a fifth may be conferring with the teacher about some difficulty or asking for a criticism on his notes or outlines. Usually one or two students are browsing among the volumes in the bookcases or going through tables of contents or indexes to find a clew to some obscure item. Now and then an idler or a dawdler will be observed. In general, however, the room is a place of quiet, disorderly order, in which students are busily engaged in profitable activities of one kind or another.

In general, the teacher is occupied in inspecting the work of students, in suggesting a change here and an improvement there, in assisting a student over an obstacle, in calling his attention to an oversight or a mistake, in directing him to a particular volume in which needed material may be found, or in questioning him upon some phase of the work which the student thinks he has mastered. Upon the discovery of common mistakes or difficulties the teacher, from time to time, asks the students to lay aside their work and proceeds to correct errors or suggest ways out of difficulties. This done, study is resumed.

Now and then individual work is dropped and group activities predominate. On such occasions, significant phases of the unit are explained and interpreted, or some student who has completed the study of a special phase of the subject gives a special report, or a debate occurs, or the class asks questions of the teacher, or an informal discussion takes place. From time to time tests are given, floor talks are made, notes are read aloud and criticized, graphs and charts are displayed and criticized. But no matter what type of activity may be under way the classroom is regarded as a laboratory in which pupils are given opportunities to learn how to investigate and how to work under the training and guidance of the teacher.

Difficulties in teaching the social studies. The difficulties in the teaching of the social studies to receive attention here are the use of the question, the relation between pupil and teacher activity, discrimination as to relative values, and the treatment of controversial questions.

1. *The question and teacher activity.* The chief abuse of the question lies in the excessive number of badly organized questions that are asked.[9] According to stenographic records teachers of the social studies, even when engaged in dealing with new material, ordinarily ask from two to four questions per minute. An analysis shows that when the rate of questioning is high, memory questions are predominant; that slight attention is given to the needs of individual pupils; that little or no time is allowed for thought and expression; that few questions are asked by the pupils; and that the degree of attention is low.

The excessive use of the question is generally prevented if the daily-lesson assignment plan, described on page 314 is followed, or if the individualized method or mastery-technique system of instruction explained on pages 320 and 321 is in operation. Under the daily-lesson plan as outlined previously, each pupil comes in front of the class to recite, no interruptions are permitted until the floor talk is completed, and questions are then raised first by the pupils and second by the teacher. Sustained recitations reduce the number of questions asked to a fraction of the number ordinarily raised and, in addition, give pupils valuable training in expression and tend to heighten their attention upon the work in progress. The plan has the further merit of reducing the activity of the teacher and stimulating that of the pupil. Individualized procedure or the mastery-technique system by their very nature tend to eliminate the use of the questions as ordinarily employed in conventional teaching.

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[9] On the question see Romiett Stevens, *The Question as a Measure of Efficiency in Instruction* (Bureau of Publications, Teachers College, Columbia University, 1912); J. O. Malott's "Questioning in Education," *Educational Administration and Supervision*, Vol. 10, 1924, pp. 250-258; G. H. Betts, *op. cit.*, pp. 55-78; Douglas Waples, *Procedures in High School Teaching* (Macmillan Co., 1924), pp. 103-119.

2. *Discrimination and proportion.* Teachers of the social studies seem especially prone to spend undue time on insignificant details of subject matter or on relatively unimportant phases of classroom work. In so far as a course tends to become burdensome because of the mass of details incorporated as the result of the determination of the content by the encyclopedic method, the difficulty can be reduced, if not eliminated, by the adoption of the unitary principle explained on page 321. When subject matter is chosen because of its interpretative value rather than on account of its importance as erudition, the "cover-the-ground" attitude so prevalent in school work usually tends to disappear.

The practice of spending undue amounts of time upon unimportant parts of the class work can also be readily reduced under the individualized or mastery-technique systems of instruction, since under such procedure class discussions are reduced to a minimum. In the daily-lesson plan of work, the practice of writing in advance at the right of each study topic the number of minutes the topic is to receive in the recitation period will prove helpful in observing the principle of proportion. When the foregoing practice is followed, the supervisor can quickly remedy a violation of proportion by going over lesson plans with the teacher during conference.

3. *Controversial questions.* The easiest way to deal with controversial questions is to eliminate them altogether. But the result of such action, especially in the social studies, is to emasculate the work and to render impossible the realization of the objectives set forth at the beginning of the chapter.

On one occasion the writer asked a class of experienced teachers to hand in lists of all topics which they thought objectionable to include in a course in civics. Among the items listed were health, immigration, political parties, tar-

iff, capital, labor, socialism, religion, race, war, divorce, international relations, dependency, delinquency, protection, government ownership, strikes, and prohibition. Little of current interest or present value remained.

But, if retained, how shall controversial subjects be handled? One plan of procedure is for the teacher to avoid the expression of personal opinion on all issues. Class work may then be confined to the explanation of the views of the advocates and the opponents of the policy under consideration—socialism, for example—with no attempt by the teacher to evaluate the arguments of either side and with an unvarying refusal to express his own views on the subject. With the best of intentions, however, most teachers unconsciousy indicate their own views and in subtle yet effective ways—by the questions they ask, the readings they assign, the incidental comments they make—influence boys and girls for or against a given attitude or course of action.

Realizing the possibility suggested, certain other educators believe that the best course in dealing with a controversial matter is for a teacher to state at the outset his own attitude, to declare his intention of dealing with the subject fairly, and to warn the pupils to be on guard against his bias and against being influenced by his opinions. Another plan, which has much in its favor, is for a teacher to provide for the presentation of both sides of disputed matters with a frank statement at the end of the discussion, in case the class raises the question, of his own views on the subject.

However a teacher may decide to handle controversial topics, all will agree that it is indefensible for him to take advantage of his position to advocate or oppose measures or policies on which public opinion is divided. Partisan propagandists have no right to a place in the public schools. From the point of view under consideration the prime function of the teacher of the social studies is not to *settle* a mooted question or to *advocate* given solutions of such

questions. His function is rather to plan and conduct the work so as to enable boys and girls to *understand* the problems of the day. The supervisor who understands controversial questions, who realizes the difficulties involved in their solution, who appreciates the problem of presenting such questions to boys and girls so as to develop understanding, sympathy, and suspended judgment, will be able to assist teachers in handling problems of the kind and by so doing will contribute notably to the realization of the objectives in the teaching of the social studies.[10]

Measuring the results of instruction. 1. *Two kinds of tests.* From the standpoint of utility two kinds of tests have proved valuable in the teaching of the social sciences. Exploratory tests, as the first may be called, include most of the standardized tests in the social-study field. Such tests are helpful in revealing the knowledge and understanding of pupils and in furnishing data for a comparison of the conditions and the quality of instruction in different grades, schools, and communities. Teaching tests, the second type for consideration, must usually be constructed by the teacher. They are serviceable in revealing the effectiveness of instruction, in diagnosing difficulties, and in guiding remedial work.

Both exploratory and teaching tests have appeared in a great variety of forms, ranging from the conventional essay test, in which the pupil answers a question in a paragraph or more of explanation or narration, to the new-type test in which little or no writing is necessary.[11] The most common new-type tests are true-false, completion, match-

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[10] Suggestive on the subject discussed above is S. C. Clement's "The Teaching of Toleration," *Educational Review*, Vol. 58 (1924), pp. 15-20.

[11] See S. G. Brinkley, *Values of New Type Examinations in the High School with Especial Reference to History* (Teachers College, Columbia University Contributions to Education, 1924, No. 16), pp. 1-11, 14-19, 29-61, 107-118.

ing, simple-recall, multiple-choice, and arrangement in character.

2. *Tests in civics.* Exploratory, or standardized tests, in civics may be grouped broadly under two heads: first, tests of information; second, tests of attitude. Illustrations are given below.

a. Fort-Lindsey's *Standardized Constitution Test* [12] is of the completion type. It is eight pages in length, contains four hundred blanks, and covers the entire national constitution, clause by clause. The test begins as follows:

> We, the 1..... of the United States, in order to form a more perfect 2....., establish 3....., insure domestic 4....., provide for the 5..... 6....., promote the 7..... 8....., and secure the blessings of 9..... to ourselves and our 10 ....., do ordain and establish this Constitution for the United States of America.

b. Hill's *Test in Civic Attitudes* [13] is an illustration of the second type mentioned above. This test, which contains twenty exercises, is of the multiple-choice construction, the pupil being directed to place a cross (x) before the response which he considers the best of the four that are suggested. The following is a sample exercise.

1. In using public property, the good citizen should:
   (*a*) handle it carelessly because he does not own it.
   (*b*) take as good care of it as if it were his own.
   (*c*) use it so as to get the greatest amount of fun and enjoyment out of it.
   (*d*) take better care of it than if he owned it because it belongs to others.

3. *Standardized tests in history.* Standardized tests in history are too numerous and varied for adequate treatment here. They fall into two main categories: first, tests of his-

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[12] Constitution Publishing Co., Mitchell, South Dakota.
[13] Public School Publishing Co., Bloomington, Ill.

torical information; second, tests of mental processes in the study of history, such as judgment, imagination, discrimination, inference, and causal relationships. Space permits the inclusion of illustrations from only a few representative types.

a. Harlan's *Test of Information in American History.*[14] This is an informational test of the completion type. It contains ten exercises, calling for personages, historic terms, events, places, hypothetical conclusions, persons-periods, dates-events, events-dates, statements and conclusions, significance of events, results of events. Exercise III will serve as a sample:

Name the events which make the following places historically significant:

1. Valley Forge .....
2. Gettysburg, Pa. .....
3. Mt. Vernon, Va. .....
4. Lake Erie .....
5. Rio Grande River .....

b. Van Wagenen's *American History Scales*[15] are more elaborate than any history tests now available. They are designed to measure first, historical information from the standpoint of both quantity and difficulty of comprehension (Information Scales A and B); second, ability to draw inferences from given data (Thought Scales A and B); and third, ability to apprehend traits of character from passages depicting some act of the person under consideration

[14] Bureau of Coöperative Research, University of Minnesota.

[15] M. J. Van Wagenen, *Historical Information and Judgment in Pupils of Elementary Schools* (Teachers College, Columbia University Contributions to Education, 1919, No. 101; M. J. Van Wagenen, "Some Implications of the Revised Van Wagenen History Scales," *Teachers College Record*, Vol. 27 (1925), pp. 142-148. The Van Wagenen Scales are obtainable from the Bureau of Publications, Teachers College, Columbia University.

(Character Judgment Scales A, B, and L). Illustrations from the last two tests follow.

Thought Scale A

3. A hundred years ago it took a letter several days to go from New York to Boston. To-day it takes only a few hours. Why do you think it took letters so much longer to go from New York to Boston 100 years ago than it does to-day?

Character Judgment Scale A

12. General Smyth was remarkable for long, prosy, interminable speeches in the House of Representatives. On one occasion, in the committee of the whole, after having wearied the patience of the members more than usual, he said to Mr. Clay, who sat near him, in a low voice, while he was pausing for a new start, "You speak for the present generation; I speak for posterity."—"Yes," replied Mr. Clay, "and you seem resolved to continue speaking until your audience arrives."

Draw a line under the three of the following words which you think best describe this action of Henry Clay.

kind	bitter	sarcastic	generous	cautious
humorous	ignoble	abusive	sympathetic	ready witted

c. Barr's *Diagnostic Tests in American History*[16] attempt to measure the mental products of historical study. They consist of five tests, as follows: (1) comprehension; (2) chronological judgment; (3) historical evidence; (4) evaluation of facts; (5) causal relationships. Although the tests have been revised a number of times, they are not yet standardized. Illustrations of the exercises follow.

Chronological Judgment

1. Indicate the chronological order (time order) in which the following men lived by placing a figure one (1) before the individual who lived first, a figure two (2) before the individual who lived second, and so on through the list.

[16] Bureau of Educational Research, University of Illinois.

a. Patrick Henry
b. Robert E. Lee
c. John Cabot
d. James Monroe
e. Roger Williams

Historical Evidence

1. If you were writing an account of the burning of a county court house in 1880 and came to a point in the story where there were the three following conflicting accounts, which of the accounts (from all you can learn from the accounts themselves) would you accept as probably the correct version of the story?

Put a figure one (1) before the account which you think is most likely to be the correct one; a figure two (2) before the account that is next in value; and a figure three (3) before the one that is the least likely to be the correct version.

(*a*) Mr. Jackson, an old resident of the county-seat, who was an eyewitness of the affair, said that the building burned rapidly and that but few of the records were saved.

(*b*) An old letter written at the time by Mr. Hough to a friend, and an account in the local paper, say that all the records were saved.

(*c*) Mr. Smith, another old resident, said that in his opinion none of the records were saved.

Evaluation of Facts

1. Put a cross (x) before the event in the following list which has been of the greatest importance in American History.

(*a*) The founding of Philadelphia
(*b*) The purchase of Alaska
(*c*) Jay's treaty with England
(*d*) The Declaration of Independence
(*e*) The election of Andrew Jackson

Causal Relationships

1. The United States was at war in 1863, 1898, and 1917. In 1840, 90,000 immigrants came to America; in 1855, 430,000

immigrants came; in 1863, 100,000 immigrants came; in 1867, 350,000; in 1882, 788,000 came; in 1898, 225,000 came; in 1913, 1,200,000; in 1917, 200,000.

Put a cross (x) before two of the following conclusions that might be drawn from the facts given above.

(*a*) Immigation into the United States increases during periods of war.
(*b*) There has been a general increase in the immigration into the United States during the period of 1840-1917.
(*c*) War reduces immigration.
(*d*) Immigration into the United States decreased during the period of 1840-1917.
(*e*) The majority of the immigrants to the United States since 1900 came from southern and eastern Europe.

d. Mendenhall's *Tests for the Measurement and Analysis of Ability in History* [17] attempt to measure historical ability as shown in silent reading, sense of value, extent of reading, temporal perspective, interest, imagination, vocabulary, memory, organization, geography, and cause and effect. Definite time limits are set for each exercise. The test of sense of value consists of a series of groups of two persons, events, or places, the pupil being directed to indicate which of the two is more important. The test of imagination consists of labeling as possible, absurd, or impossible such statements as these:

Abraham Lincoln when a child received a dollar from George Washington.
Columbus and John Cabot were relatives.
Queen Elizabeth was secretly wedded to an American Indian.

The test of extent of reading requires the naming of the authors of different works or the locating of literary characters in the books in which the characters are found. An illustration of the second form of the last test item follows:

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17 Penn College, Oskaloosa, Iowa.

"Rip Van Winkle. 1. *Ben Hur.* 2. *The Sketch Book.* 3. *Middlemarch.*"

4. *Teaching tests.* The discussion of the measurement of instruction up to this point has been confined largely to standardized or exploratory tests. Teaching or practice tests will now be considered. By coöperating in their construction, supervisors may directly contribute to the improvement of instruction.

Teaching tests are primarily intended to reveal the results of instruction. For the most part they deal with portions of a given course rather than with the course as a whole. For example, when the unitary plan of organization is followed (see page 321), tests need to be devised for each of the units of the course. Under the mastery-technique procedure the results of the tests are used to diagnose pupil difficulties, to guide instruction, and to aid in the revision of units. Tests such as these are not employed for the purpose of failing, promoting, or ranking students.

When properly constructed, teaching tests focus upon the objectives that govern the teaching procedure and control the selection and organization of subject matter. Thus, if the primary end is knowledge, the tests should focus upon memory; if the main goal is comprehension, or rationalization, the tests should center upon understanding.

Examples from the mastery-technique procedure will clarify the viewpoint that has just been stated. In accordance with the mastery formula explained on page 320ff., instruction is attended by tests designed to reveal whether the objectives have been attained. After presentation the essay test is generally employed, the pupils being required to put in writing in clear, concise language, their understanding of the unit that the teacher has just sketched. If the test papers are ambiguous, incoherent, or incorrect, the unit is again presented to the pupils concerned, with such

modifications in the presentation as the diagnosis of the results of the test show are desirable.

Most of the testing occurs during assimilation. Completion, true-false, continuity, arrangement, essay, multiple-choice, and comprehension tests are all employed. Below are given (1) sample exercises from an essay test designed to reveal whether pupils are apprehending connections or relationships between the past and the present and (2) questions from a comprehension test devised to discover whether pupils have grasped the significance of details in the minimal essentials. The first is from the course outlined on page 310; the second from that shown on page 313.

The Westward Movement

A Test in Relationships

How do events, or conditions, during the westward movement help to explain the following:

1. When George Washington became President of the United States universal adult suffrage did not exist in any State in the Union; when Calvin Coolidge became President, universal adult suffrage existed in every State in the Union.

2. The early Presidents of the United States seem to have thought that the United States would eventually become several countries; no recent President has held any such idea.

3. In 1800 the postal rate for a letter of a single sheet was twenty-five cents; in 1900 the rate for a letter was only two cents.

4. In 1850 Chicago was the third city in the West; in 1900 Chicago was the first city west of the Alleghenies.

5. In 1820 most of the population in the Middle West lived near the Ohio and the Mississippi; in 1920 most of the population in the Middle West lived near the Great Lakes.

6. In 1790 most of the people in the United States thought of themselves as Pennsylvanians, Rhode Islanders, Virginians, New Yorkers, or Georgians; in 1920 most of the people thought of themselves as Americans.

7. In 1810 Americans often regarded the forests as handicaps to the development of the country; in 1920 Americans regarded the forests as invaluable to the country.

8. In 1820 immigration to the United States was encouraged; in 1920 immigration was discouraged.

9. During the first three generations after the adoption of the Constitution most immigrants settled in rural sections in the United States; during the last two generations most immigrants have settled in cities.

10. During the first third of the nineteenth century the number of Americans who wished to become economically independent of the rest of the world grew larger and larger; during the last forty years the number of Americans who desire to extend our economic relationships with other countries has steadily grown.

The Apportionment of Goods

A Test in Understanding

Put a cross (x) in front of the best answer to each question. Be able to give reasons for your selection in each instance.

1. What does the economist mean by "the apportionment of goods"?

   (*a*) He means the transportation of commodities from place to place
   (*b*) He means the exchange of goods between buyers and sellers
   (*c*) He means the division of the products of industry among producers
   (*d*) He means the distribution of natural resources in various parts of the earth

2. How did the Industrial Revolution affect the relation between the capitalist and the laborer?

   (*a*) The Industrial Revolution brought the capitalist and the laborer closer to one another
   (*b*) The Industrial Revolution tended to separate the capitalist from the laborer
   (*c*) The Industrial Revolution had no effect upon the relation between the capitalist and the laborer
   (*d*) The Industrial Revolution caused a more friendly relationship between capitalist and laborer

3. Which of the following are determined directly by the law of supply and demand?

   (*a*) Interest
   (*b*) Taxes
   (*c*) Profits
   (*d*) Strikes

4. What is meant by *laissez faireism?*

   (*a*) Governmental regulation of wages, hours, and conditions of labor
   (*b*) Judicial determination of disputes between employers and employees
   (*c*) Establishment of agencies to settle industrial strife
   (*d*) Non-interference with the operation of economic laws

5. What is meant by industrial arbitration?

   (*a*) The settlement of industrial disputes by referees or judges
   (*b*) The bringing together of contesting parties to confer about a settlement of difficulties
   (*c*) The making of labor contracts through collective bargaining
   (*d*) The fixing of minimum and maximum wage laws

6. What is unemployment insurance?

   (*a*) Insurance against industrial injuries
   (*b*) Insurance against sickness and old age
   (*c*) Insurance against lack of work
   (*d*) Insurance against long hours of labor

7. What is the chief method used by organized labor to influence wages and working conditions?

   (*a*) Industrial warfare
   (*b*) Government ownership
   (*c*) Collective bargaining
   (*d*) Social legislation

8. For what does Marxian socialism stand?

   (*a*) Equal distribution of property among all members of society
   (*b*) Equal wages and equal hours of labor for all workers
   (*c*) Social ownership and control of all important means of production
   (*d*) Government management of railroads, factories, and mines

9. Why should the public have the final control in industrial warfare?

   (*a*) Because the public welfare is affected by industrial strife
   (*b*) Because the maintenance of the peace is a duty of the public
   (*c*) Because industrial warfare often destroys public property
   (*d*) Because industrial warfare is injurious to production

10. Why is economic justice difficult to establish?

    (*a*) Because the government lacks wisdom and power
    (*b*) Because fair apportionment cannot be secured peaceably
    (*c*) Because people differ as to what constitutes fair apportionment
    (*d*) Because we have no courts to decide what is fair distribution

Standards for the improvement of teachers. There are many ways in which school administrators and supervisors may contribute to the efficiency of teachers of the social

studies in addition to taking advantage of the obvious opportunities that abound in classroom supervision and personal conference. Among the standards and principles that may be suggested are the following:[18]

1. Defend teachers who are unjustly attacked.
2. Call the attention of teachers to worthwhile publications dealing with their problems and activities.
3. Have in the school a professional library equipped with the leading educational periodicals and authoritative reference works.
4. Be sincere and coöperative in all relations with teachers.
5. Encourage teachers to take part in the activities of the community.
6. Never discuss a teacher's deficiencies or shortcomings with, or in the presence of pupils, parents, or other teachers.
7. Study the science of education.

Literature of the teaching of the social studies. The best source of information for progressive movements in the teaching of social science is the *Historical Outlook*[19]; this periodical is devoted largely to tendencies, experiments, and developments in history, civics, economics, and sociology. The *School Review*[20] and the *Teachers College Record*[21] also contain numerous articles dealing with the social studies. Especially helpful in keeping in touch with the progress in the field is the *Teachers Journal and Abstract*[22]; this magazine devotes from forty to fifty pages of each issue to abstracts of notable articles dealing with educational subjects, classified conveniently under appropriate headings. The *Loyola Educational Digest*[23] also provides

[18] Several of the standards given above are suggested by J. O. Powers, "The Ethics of Teaching Profession," *Journal of Educational Research*, Vol. 12 (1925), pp. 262-274.

[19] McKinley Publishing Co., Philadelphia.

[20] University of Chicago.

[21] Columbia University, New York City.

[22] Colorado State Teachers College, Greeley, Colorado.

[23] Edited by A. G. Schmidt, 3441 North Ashland Avenue, Chicago.

(on cards convenient for filing) condensed abstracts of topics discussed in current educational literature. Attention is also called to the *Record of Current Educational Publications;* [24] this bulletin gives an annotated list of practically all significant articles appearing in educational journals. Membership in the National Council for Social Studies and attendance at its sessions are valuable sources of information about investigations, surveys, and developments in social science.

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CHAPTER VIII

THE SUPERVISION OF COMMERCIAL EDUCATION

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Major duties of supervision in commercial education. The duties of supervisors of commercial education may be divided into two groups: those of instructional administration and those of supervision. In practical school work, they are more often mixed than separated; hence, both need to be considered. Each group of duties tends to become very large, even when details are excluded, because the commercial department of a large school may include as many as twenty or more subjects; even in smaller schools the number is seldom less than three, and it is frequently six or more. Consequently, it is manifestly impossible to do full justice to the problems of special supervision in a single chapter; the presentation must be sketchy and incomplete.

1. *Classification of the duties of special supervisors of commercial education.* The duties of commercial supervisors may be classified as follows:

(*a*) *Contacts with principals and heads of departments.* For consultation on matters of records, supplies, textbooks, equipment, repairs, selection of teachers, promotion of teachers, budget. Also, contacts for the purpose of informing them of the many problems of business training and to develop in them the proper attitude toward these problems.

(*b*) *Contacts with commercial teachers*

- Selection of teachers
  - Construction of adequate application forms
  - Construction of adequate reference and information blanks
  - Personal interviews with candidates
- Initial conferences with teachers after selection
  - Provision of information about positions assigned to teachers
  - Establishment of a friendly attitude
- Responses to requests for assistance
  - Visitation to schools
  - Observation of teaching
  - Conferences—individual or group
- Rating of teachers
  - Construction of standards for rating
  - Observations of teaching for rating purposes
  - Diagnosis of causes of difficulty
- Training of teachers in service
- Teachers' meetings
  - Demonstration teaching
  - Study of causes of failure
  - Stimulation of teachers to secure more training
- Promotion of professional organizations
  - Stimulation of local teachers' associations and clubs
  - Stimulation of attendance at conventions
- Stimulation of research
  - Help and encouragement in construction of tests, standardization of tests, use of and interpretation of results of tests
  - Administration of local occupational surveys and job analyses of local occupations
  - Control-group experimentation on methods
  - Provision of adequate rewards for contributions of teachers
- Help in securing promotion
  - Aid to deserving teachers in securing better positions and salaries in the system
  - Aid to teachers in securing better positions elsewhere
- Construction of curricula and syllabi with coöperation of teachers' committees
  - Constant revision, requiring permanent committees

(*c*) *Contacts with pupils*
- Stimulation of pupil commercial clubs
- Stimulation and administration of local, district, and state commercial contests
- Stimulation of construction of exhibits of the work of commercial pupils
- Help in securing positions for pupils after they finish school or part-time positions for such as need them while still in school
- Follow-up of occupational progress of students after they enter the business world
- Surveys of vocational aptitudes
- Securing of speakers, of typing, and stenographic expert demonstrations for the stimulation of interest among pupils

(*d*) *Contacts with other commercial supervisors and administrators*
- Attendance at educational conventions
- Service on committees
- Preparation of articles for publication
- Speeches
- Correspondence with specialists

(*e*) *Contacts with business men*
- Membership and activity in business men's organizations
- Service to business men in securing office workers for them from the graduates of the high schools
- Coöperation with business men in making occupational surveys and job analyses

(*f*) *Community service*
- Participation in social and civic affairs of the community
- Membership in local organizations and participation in their activities

(*g*) *Contacts with school administrative officials*
- Preparation of records
- Preparation of reports
  - Construction of satisfactory report forms
- Coöperation in furtherance of accepted administrative policies
- Preparation of departmental budget

(*h*) *Self-improvement*
- Keeping in touch with modern developments in other cities

Attainment of additional training

(*i*) *Research activity*

Local occupational surveys
Job analyses of local business occupations
Construction of tests
Standardization of tests
Experimental study of teaching methods
Study of effectiveness of textbooks, supplies, and equipment
Construction of long-term program for the improvement of commercial education

(*j*) *Publicity*

Writing publicity material for high-school papers, city newspapers, and professional magazines
Promotion in teachers, pupils, administrators, and the public in general, of a good attitude toward business education

The classification into duties by contacts is, in many ways faulty, because in nearly every case the contact covers several groups; nevertheless it may be helpful to consider the duties in relation to the principal groups with which they are made.

2. *Special needs in the supervision of commercial education.* For satisfactory execution, under ideal conditions, of as many duties as are listed above, and for the many other duties not included there, the person in charge of supervisory duties must be well trained in modern methods of education, in subject matter, and must have a background of actual business experience and satisfactory teaching experience. Few save the largest cities have found it expedient to employ full-time commercial supervisors; only one or two states have officials of this sort. Herein probably lies the greatest single obstacle to the satisfactory development of commercial education on a scientific basis. In smaller towns and cities, the principal or the head of the commercial department must ordinarily shoulder such responsibilities if they are undertaken at all.

It is in these communities that supervision is most needed. The teacher, often young and inexperienced, cannot be left to his own resources. Although it is recognized that principals lack, for the most part, training in the subject matter of commercial subjects they can do much toward the general improvement of commercial teachers. It will be the purpose of this chapter to supply something of a guide to general workers intrusted with the supervision and the improvement of the teaching of commercial subjects.

Objectives of commercial education. One of the first problems to which the principal or supervisor should direct his attention is that of the aims and objectives of commercial education. Any adequate statement of the aims of commercial education must include at least the following ideas:

1. Furtherance of the fundamental general purposes of the high school
2. Exploratory and prevocational information
3. Vocational training, especially for students who will either drop out of school before graduation or who will obtain no college training
4. Preparation for collegiate training for those who will get such training
5. Development of such capacities for and the giving of such information about business as is essential for the conduct of the personal business affairs of any adult
6. Development of desirable personal qualities or traits, particularly those which are most essential in the business world
7. Specialization to the greatest possible extent for those business positions likely to be secured, without encroachment on the core curriculum provided for all students
8. Provision of training for promotion or advancement in the business world

Each of these general objectives should apply to every subject offered in the commercial curriculum. Detailed lists of specific objectives for each of the business subjects

would be too long to include here. Such lists may be found, however, in the references given at the end of this chapter.

Since the high school is not, and should not be considered a specialized trade school, it would be entirely unwise to attempt to teach business techniques alone, even to students planning definitely to enter the field of business, for it is unquestionably necessary to continue the process of the development of the skills, knowledges, and attitudes essential for the efficient conduct of the social, civic, religious, and cultural activities of the adult in modern society as well as to develop efficient vocational abilities. Therefore any attempt to encroach upon the core curriculum of essential activities should be discouraged.

On the other hand, with business expanding and attracting large numbers of workers and offering many kinds of attractive positions, and with the increased tendency to specialization, it is equally necessary that vocational training be not slighted. Since many pupils of the junior high school are unacquainted with many of the possibilities in business life, a course in junior business training, with emphasis on exploration, should be provided, and possibly even required, along with other prevocational and exploratory courses, in the junior high school. Furthermore, the pupil with a demonstrated aptitude for business, who cannot finish high school or who does not expect to go to college, should be given an opportunity to specialize in business. For these reasons provision should be made for both general and for specialized training. Out of thirty recitations per week, possibly twenty should be devoted to general training and ten to specialization.

Even for pupils who do not plan to go into business; for students who have definitely chosen some other occupation, there is a fund of business information such as the proper handling of a bank account, the development of an intelli-

gent attitude toward insurance, budgeting, saving, investing to be learned. Some detailed information about the use of the telephone, the telegraph, the shipping of packages, the sending of money, about transportation facilities, about hotel customs and procedures, and about income-tax requirements, are essential for a good citizen in almost any profession or vocation. These subjects should, therefore, be made a part of the general training of every pupil. Many schools are providing this training in junior business training courses, and some schools are *requiring* such a course of every pupil.

The sequence of courses in junior and senior high schools. 1. *Desirable variability of courses.* One must realize the impossibility of constructing a single course of study that will fit every high school. The small town cannot hope to finance as extensive a curriculum as can the large city, even if it were desirable to do so. Towns where the industrial and commercial interests center chiefly about mining should probably offer somewhat different commercial curricula from those interested chiefly in farming, manufacturing, lumbering, or cattle-raising. Furthermore, even among towns of a given size, there might well be distinctions between the curricula, depending upon whether or not the town is located near a large city in which many of the students will later obtain positions. It is one of the functions of the supervisor to determine by adequate surveys the nature and extent of the migrations of pupils and the types and character of the occupations obtained by commercial pupils, and then to base the curricula, at least in its specialization aspects, upon such findings.

2. *Variability to meet needs of different types of students.* Where junior high schools are found, the curriculum may well vary from the type most suitable for four-year high schools. In large cities several specialized curricula preparatory to specialized types of business

positions may well be provided. For instance, there might be a general business course for pupils who wish to obtain business information for personal rather than vocational uses and for pupils who plan to attend colleges of commerce, a stenographic curriculum, a bookkeeping and accounting curriculum, a secretarial curriculum, a retail-selling curriculum, a curriculum for operation of office machines such as calculating and bookkeeping machines, the mimeographs and the multigraph, and a curriculum for clerical or office positions.

It must be expected that pupils of various types will seek out the commercial department for many different reasons and that the utmost possible service should be the aim of that department. Among the types of pupils coming into the business classes are the following:

1. Pupils of other departments who wish business courses for personal efficiency reasons
2. Pupils who must leave school without finishing the high-school course
3. Pupils who plan to go to college
4. Pupils who can finish high school, but cannot go to college

The needs of each group must be considered in determining the offerings of the commercial department, but unfortunately it is not always possible to provide for all of the needs that exist. Many factors limit activities; typical ones that must be considered in any community are:

1. The industrial and commercial interests in the community
2. The building space available
3. The equipment available
4. The number of years in the secondary school: four or six
5. The other sources of business training—business colleges, evening schools, continuation schools, vestibule schools of business concerns, junior colleges, colleges and universities
6. Demands of the core curriculum
7. College entrance requirements
8. Finances available

9. Numbers and training of teachers
10. The different requirements of the sexes—boys need a different type of business training than girls
11. The possibilities of part-time training in business offices through plans for a week in school followed by a week on the job, or some similar arrangement
12. The constant need for revision of the curricula as the needs of the pupils and of the community change

3. *Varying curricula to meet local needs and conditions.* The following curricula are presented as general, suggestive guides for supervisors and administrators. They are designed to meet the needs of various types of students, of various types of communities, and of various types of school organization. They are proposed with the understanding that a general core curriculum will accompany them and will absorb from 50 per cent to 75 per cent of the pupils' time; more being required in the earlier years than in the later years of the high school.

COMMERCIAL CURRICULA FOR SMALL TOWNS

	With Junior-Senior High-School Organization	With Four-Year High-School Organization
GRADE VII	Core curriculum, 20-28 recitations per week Personal typewriting, 2 recitations per week for one semester	
GRADE VIII	Core curriculum, 20-25 recitations per week Junior business training, 5 recitations per week for 2 semesters	
GRADE IX	Core curriculum, 20 recitations per week Typewriting, 5 hrs.,[1] 2 semesters	Core curriculum, 20 recitations per week Junior business training, 5 hrs., 2 semesters

[1] By the term *hour* is meant *period* of from 40 to 60 minutes.

GRADE IX *Continued*	Penmanship, remedial classes for pupils unable to pass satisfactory tests	Typewriting, 5 hrs., 2 semesters
	Local commercial geography, 5 hrs., 1st semester	Penmanship for pupils unable to pass satisfactory tests
	Commercial geography, United States, 5 hrs., 2nd semester	Personal typewriting, 2 hrs., 1 semester, for non-business pupils
GRADE X	Core curriculum, 20 recitations	Core curriculum, 20 recitations
	Typewriting, 5 hrs., 2 semesters. Last semester chiefly office machines and office practice	Typewriting, 5 hrs., 2 semesters. Last semester chiefly office machines and office practice
	Bookkeeping, 5 hrs., 2 semesters	Bookkeeping, 5 hrs., 2 semesters
GRADE XI	Core curriculum, 15 hours	Core curriculum, 15 hours
	Shorthand, 5 hrs., 2 semesters	Shorthand, 5 hrs., 2 semesters
	Bookkeeping, 5 hrs., 2 semesters	Bookkeeping, 5 hrs., 2 semesters
	Commercial correspondence and business literature, 5 hrs., 2nd semester	Commercial correspondence and business literature, 5 hrs., 2nd semester
GRADE XII	Core curriculum, 15 hours	Core curriculum, 15 hours
	Shorthand, 5 hrs., 1st semester	Shorthand, 5 hrs., 1st semester
	Secretarial training, 5 hrs., 2nd semester	Secretarial training, 5 hrs., 2nd semester
	Commercial law, 5 hrs., 1st semester	Commercial law, 5 hrs., 1st semester
	Salesmanship, 5 hrs., 1st semester	Salesmanship, 5 hrs., 1st semester
	Store practice, part time, 2nd semester	Store practice, part time, 2nd semester
	Business organization, 5 hrs., 1st semester	Business organization, 5 hrs. 1st semester

Commercial Curricula for Large Towns and Cities [2]

	General Business	*Secretarial*	*Retailing*	*General Clerical and Office Machines*
Grade XI	Core curriculum, 20 hrs.	Core curriculum, 15 hrs.	Core curriculum, 20 hrs.	Core curriculum, 20 hrs.
	Economics, 5 hrs., 1st semester	Commercial correspondence and business literature, 5 hrs., 2nd semesters	Advertising, 5 hrs., 1st semester	Bookkeeping machine
	Sociology, 5 hrs., 1st semester	Shorthand, 5 hrs., 2nd semesters	Salesmanship, 5 hrs., 2nd semester	Comptometer
	Local industries, 5 hrs., 1st semester			Mimeograph
	Commercial geography, 5 hrs., 2nd semester			Multigraph
				Minor office machines
				(Choose 2 machines, 5 hrs. each, 2nd semester)
Grade XII	Core curriculum, 20 hrs.	Core curriculum, 15 hrs.	Core curriculum, 15 hrs.	Core curriculum, 15 hrs.
	Business organization, 5 hrs., 1st semester	Shorthand, 5 hrs., 1st semester	Commercial law, 5 hrs., 1st semester	Commercial law, 5 hrs., 1st semester
	Business law, 5 hrs., 1st semester	Secretarial training, 5 hrs., 2nd semester	Retail store management, 5 hrs., 1st semester	Office practice, part time
		Office practice, part time	Store practice, part time	Personnel and office management, 5 hrs., 1st semester

[2] Subjects for Grades VII to XI same as for small schools.

Personal typewriting is planned only for pupils who do not intend to take typewriting in the classes designed to develop a commercial degree of skill.

Penmanship should be of a remedial type only and should be required of pupils in any grade, whose written work, selected at random from class papers, does not measure up to the rate and quality commonly demanded by business; possibly quality 60 on the Ayres scale should be the minimum.

Commercial correspondence, and business literature may be offered in place of one of the traditional literature courses as being more practical and more valuable from a vocational point of view.

In the eleventh and twelfth grades, in schools able to finance specialized curricula, specialization should be encouraged. Such specialization should be based upon analyses and tests of vocational aptitudes and attitudes.

In the office-machines course, pupils should be encouraged to choose one or two machines and to develop a high degree of skill in each.

The selection and organization of content. The detailed subject matter covering knowledges, skills, and attitudes for each subject offered, should be determined by means of careful research to ascertain the requirements of business offices and the requirements for promotion or advancement. Although knowledges, skills, and business techniques are of great importance, it is likely that the critical requirements for success and for advancement depend upon the development of essential personal qualities and attitudes such as tact, responsibility, accuracy, and the like. Much more attention should be given in the future to the construction of definite and detailed exercises and situations requiring the exercise of such traits and their development to satisfactory levels. Incidental talks, readings, and lectures are ordinarily a very inefficient means

for developing such qualities. Until they become the objects of better teaching methods than in the past, little hope can be held for the proper development of these traits.

Detailed syllabi must be created by supervisors, with the assistance of committees of commercial teachers and of committees of business men, that will include only those items now required in business, and that will omit entirely many of the items now contained in textbooks and syllabi, which are outgrown in to-day's business procedures or are so complex as to be beyond the appreciation, understanding, and life experience of the pupils who are to study them.

Since it is impossible to present detailed syllabi in a single chapter, even if the author were wise enough to do so, no such attempt will be made. Instead, as bases for the construction of local syllabi for the subjects in his school, the reader is advised to read as many of the syllabi given in the bibliography as is possible.

Methods of teaching. Each supervisor will find it necessary to construct a philosophy of teaching for the commercial subjects under his control and perhaps to construct lists of suggested devices for the use of his teachers. Perhaps such a philosophy will never be completely expressed in writing, but since every one has such a philosophy, either clearly thought out or only dimly felt, it would be wise to think through such a groundwork for commercial instruction. In general one may say that the successful teaching of commercial subjects requires that the methods of instruction be within the learning capacity of the pupils and within their life experiencing capacity so that they may feel a real need for such instruction.

Detailed dictation of exact procedures should be avoided as tending to develop overdependence of students upon the teacher and underdevelopment of the pupils' initiative, self-dependence, and judgment. As long as it is being

attempted to develop intelligent response rather than automatic habitual responses to orders, such dictation of every step of any procedure should be minimized. If teachers were required to convince students of the values of the items taught, and if they were paid on the basis of the number of students they could persuade to remain voluntarily in their classes or even to pay for the instruction received, an entirely different philosophy of teaching would probably be developed, and methods entirely different from those now employed would be created. Those methods would probably be more effective in arousing the interest of the pupils and much more useful than those now in use.

1. *The place of drill in commercial education.* The contention that pupils must be made to drill, particularly in the skill subjects, is a perfectly proper contention, but such drill should be obtained through the student's desire for improvement and mastery rather than by means of requirements for getting a passing grade or by means of penalties for those who fail. Pupils have no particular objections to repetitive drill if they see the necessity for it and the rewards to be reaped from their efforts at mastery. The chief teaching difficulty is to find some means of convincing the student that there is a sufficiently good reason for his efforts. To the extent that the teacher makes the pupil think a given item of instruction is worth while, will she find the student willing to drill upon it.

2. *Classified lists of teaching devices.* Many teaching devices have been collected for each of the business subjects. A few of them are presented here, without an attempt to evaluate them, for they vary in effectiveness with the type of student and with the skill of the teacher. The supervisor may find a part of the list valuable to present to teachers in order to help them to obtain greater variety of instruction and to enable teachers to get out of "ruts" into which they may have fallen. Moreover, principals

who are little acquainted with business subjects may find these devices useful in evaluating instruction and in discovering procedures to improve business instruction, particularly with young or inexperienced teachers or those who received their training many years ago.

I. *General Methods, Applicable to Most of the Commercial Subjects:*

1. Assign lessons by topics or problems, not by pages. The best assignment is the one made by the pupils themselves.
2. Keep the instruction within the life experiences of the pupils. Do not talk far above the pupils' heads.
3. Provide for observation trips to offices and industries.
4. Provide for lectures or talks by commercial experts and by business men. Keep a card file of good speakers available.
5. Use inventory tests to determine the status of the class at the start of the term.
6. Use achievement tests periodically to determine the extent of progress, both of the individual and of the class, and to determine the amount of the final achievement.
7. Use prognostic tests wherever available to prevent pupils attempting to master subjects for which they lack capacity.
8. Use diagnostic tests wherever available to determine causes of difficulty, and as a means of determining upon remedial measures for individuals or for groups.
9. Make a survey of the purposes for which pupils voluntarily use the subject matter for their own uses. Thereafter build instruction as much as possible about such activities.
10. Vary the class procedure in order to maintain interest.
11. Provide frequent reviews, in problem settings.
12. Provide for individual differences in ability by giving supplementary exercises for which additional credit is given.

13. Encourage pupils to take part in local, inter-group contests.
14. Provide competition—between individuals, between classes, and stimulate the pupil to surpass his previous record.
15. Encourage pupils to secure part-time or vacation jobs for the experience and to get a business point of view.

II. *Devices for Bookkeeping:*

1. Explain the possibilities of promotion in the field of bookkeeping and accounting, and the wages paid for various types of positions. Explain the meaning of the term Certified Public Accountant. Encourage pupils to secure specialized training in this field.
2. Use local happenings as a basis for explaining topics. A local fire may, for instance, furnish the basis of entries for recording fire losses.
3. Encourage pupils to hunt up interesting news items about bookkeeping: such items as the oldest known set of books, and the split-stick method of keeping records in early England.
4. Ask business men, bookkeepers, and Certified Public Accountants to talk to the classes.
5. Provide for class or committee visits to local bookkeeping departments.
6. Do not teach procedures which must later be changed. Example: teaching a general merchandise account and later breaking it up into sales accounts, and purchase accounts.
7. Do not spend valuable time during the class hour correcting papers.
8. Encourage pupils to help keep the records of the various school organizations.
9. Discuss and interpret business statements found in newspapers and magazines.
10. Study income-tax report requirements and have the pupils make out individual report forms.
11. Use actual business forms, but only long enough for pupils to become skillful in their use. To continue using them after the learning process is complete is a waste of time.

12. Avoid long sets where the work is chiefly routine. Use short sets or secure printed or mimeographed copies of ledger accounts from which to make out statements.
13. Prevent cheating by developing so great an interest and so great a desire to master bookkeeping that the pupil will not want to cheat. Different price lists may be a deterrent to cheating, but probably no *penalty* will cure cheating.
14. Encourage pupils to take part in local bookkeeping contests.
15. Help pupils to secure part-time positions.
16. Have one section of the blackboard ruled in permanent ledger ruling to facilitate blackboard explanations. Have another section in permanent journal ruling.
17. Combine class-recitation methods with individual methods.

III. *Devices for Business Arithmetic:*

1. Present problems on business forms, either stenciled or printed, because in business, problems generally come in that form.
2. Teach pupils to approximate answers as rough checks on accuracy.
3. Provide occasional rapid calculation contests as reviews of fundamentals and as stimulus to interest.
4. Omit sections of the textbook for which there is little or no practical use, such as: compound interest (generally figured from tables), compound proportion, investments, averaging of accounts, present worth, partial payments, foreign exchange, and the like. Most of these are either beyond the life experiences of high-school pupils or are figured from tables. The use of tables may well be taught.
5. Give initial inventory tests.
6. Give achievement tests periodically.
7. Use individual practice or drill sets on fundamentals. This provides best for individual differences.
8. Have pupils bring in life problems illustrating each topic. These may be secured from sources such

as the home, the newspaper, the magazine, and local events. Such problems will stimulate interest and will help to convince pupils of the practical values of arithmetic.

9. Teach pupils the use of adding and calculating machines and permit their use in solving problems. Do not, however, neglect mastery of the fundamentals.
10. Teach the use of the slide rule.

IV. *Devices for Commercial Correspondence:*

1. Start the course with letters of application for jobs found in newspaper advertisements. This creates interest and a practical need at the start.
2. Have the letters of application discussed by the class, so that errors in form, grammar, or spelling may be discovered. Then permit them to be written in better form.
3. Have pupils collect examples of particularly forceful English in letters or advertisements. Discuss the reasons for their effectiveness.
4. Have pupils collect samples of errors found in business correspondence.
5. Encourage pupils to write the advertisements for coming school events in the school and local papers.
6. Encourage pupils to do supplementary reading in modern business periodicals and books. Give additional credit for such reading.
7. Provide oral work, such as verbal instructions to others, business reports, sales talks, and conversations on business topics.

V. *Devices for Commercial Geography:*

1. Start with study of the local community and its industries, through the assignment of problems about local industries—why they are found in this particular city, and why and how they differ from those in other cities.
2. Have the pupils try to determine the reliability of newspaper statements bearing upon commercial geography.

3. Build up a commercial museum through pupil activity. Many business firms will send exhibits of their products free. If pupils are encouraged to secure such exhibits they may acquire valuable training in correspondence as well as build up pride in the museum.
4. Use pictures, slides, maps, moving pictures, diagrams, and reflectoscopes to illustrate processes.
5. Provide lectures by business men, college instructors, and others.
6. Make observation trips to industries, chamber of commerce, transportation companies, and other local places of interest.
7. Encourage the collection of magazine and newspaper clippings about geographical topics.
8. Assign all lessons by topics or problems.
9. Establish a Junior Chamber of Commerce.

VI. *Devices for Commercial Law:*

1. In using legal forms be sure to use those of your own state.
2. Watch for local cases that illustrate points under consideration but be careful not to let personalities enter into the discussion or to permit squabbles to arise from them.
3. Do not require pupils to memorize a lot of definitions.
4. In studying cases, instead of using unknown names or designating parties by letters, use names of pupils in the classes.
5. Start out with attempt to formulate a contract and show the conditions which might arise that would lead to dispute.
6. Pupils need not be taught the steps in the prosecution of a case; that is a task for a lawyer.
7. Pupils should be taught about the possibility of appeals to higher courts and what such courts are.
8. Present each legal principle in terms of familiar business situations, remembering that students have scanty experience.
9. Use local events as bases of discussion of commer-

cial law topics; such things as forged checks and banks going bankrupt.

10. Provide for observation trips to offices of attorneys, to banks, to abstract office, to city and county record offices, to courts, to the city hall, to meetings of legislative bodies.
11. The use of moot courts and mock trials may be made interesting and instructive.
12. Secure speakers and lecturers: bankers, lawyers, judges, and business men.
13. Avoid too many technical terms, but gradually build up a limited vocabulary of common legal terms.
14. Present mimeographed abstracts of cases to pupils as problems.
15. Use the test material found in the December, February, March, and April issues of the *Balance Sheet*, 1925 and 1926.
16. Correlate commercial law with legal forms in typewriting and in bookkeeping.

VII. *Devices for Junior Business Training:*

1. Have pupils write actual letters of application for jobs advertised in newspapers. Where part-time jobs can be found advertised, actually send out some of the applications.
2. Invite business men to talk to the pupils about vocational opportunities, and about the attitudes and qualities necessary for success in business.
3. Teach the proper preparation of such business forms as receipts, checks, drafts, notes, trade acceptances, sales tickets, and other common forms.
4. Make a local survey to determine the kind of jobs held by persons of junior business age and the numbers of such jobs available each year.
5. Have former pupils come back to talk to the students.
6. Stress the value of continuing education as far as possible.
7. Have pupils visit business establishments to see how they are conducted, special attention being given to junior occupations.

8. Have pupils answer all telephone calls and thereby teach proper telephone procedure.
9. Have pupils assigned to answer the telephones in the principal's office at scheduled hours.
10. Collect a list of the business situations which the pupils have already had to meet. Then use such instances as learning situations for essential business information, as more interesting than textbook situations.
11. Give penmanship tests and require remedial classes for pupils not up to normal.
12. Encourage reading of business books and magazines.
13. Give individual employment assistance to pupils who must drop out of school.
14. Have pupils who are doing outside business work bring their business problems to class for discussion.
15. Teach the use of business directories and reference books.
16. Have pupils put in charge of registration and information booths at conventions, class plays, school athletics, etc.
17. Have pupils prepare personal budgets.
18. Have pupils fill in vocational fitness analysis blanks for inventories of their capacities and aptitudes for the purpose of stimulating them to think about future vocations.
19. Hold typewriting demonstrations by advanced pupils or by experts.
20. Show pupils how office machines are operated and permit them to use them. The small amount of possible breakage is more than compensated for by the interest and ambition aroused.
21. Hold occasional contests in rapid calculation and in spelling.
22. Permit pupils to do routine office work for other teachers and for the school offices. Particularly at marking times, there are many opportunities for such services.
23. Teach business etiquette and the value of good manners and courtesy.

24. Have pupils secure copies of business forms used by local firms when such forms are being studied.

VIII. *Devices for Salesmanship:*

1. Put pupils in charge of selling campaigns for school paper, annuals, school plays, athletic tickets, and similar activities.
2. Encourage pupils to read trade papers.
3. Provide for visits to the chamber of commerce, to stores, and to wholesale houses.
4. Have pupils fill out personality charts several times during the course so as to indicate possible progress in personal qualities.
5. Help pupils to secure positions in stores during special sales and during the Christmas holidays.
6. Arrange for part-time work in stores.
7. If possible have such part-time work paid for by the stores.
8. Have store representatives speak to the pupils, preferably at the stores.
9. Have part-time pupils keep daily sales charts.
10. Have part-time pupils report especially good sales to the rest of the class and tell how such sales were made.
11. Hold demonstration sales in classroom.
12. Have pupils give sales talks to class.
13. Help pupils to secure permanent positions after leaving school.

IX. *Devices for Shorthand:*

1. Use cross-section paper for first lessons to help pupils to determine proper relative sizes of large and small characters.
2. Use flash cards for drill. Have each pupil make his own set.
3. Show the motion pictures provided by the shorthand companies.
4. Encourage pupils to try for the awards issued by the shorthand publishing companies.
5. Use a stop watch for timing dictation.
6. In advanced classes require pupils to take notes on

all sizes and kinds of paper and in all sorts of writing positions, including standing, sitting in a chair without a writing arm, and at various types of desks.

7. Make the drill periods short but lively.
8. Review frequently.
9. Have pupils read often from shorthand plates and from their own notes, including cold notes.
10. Provide a fixed scoring plan and inform pupils of its arrangements.
11. In dictating exercises, dictate in various ways to prevent pupils learning words in a given order: read up the columns, then down, then every other word, and so forth.
12. In dictating word lists, in order to provide for speed and for individual differences in ability, have pupils write the word as many times as possible before the next word is dictated.
13. Write sentences on the blackboard and ask pupils to find the errors.
14. Teach the value of small notes.
15. Develop word-carrying capacity by requiring pupils to wait until the entire sentence is dictated. Gradually increase the length of the sentence. Later have them wait until the second sentence is started before writing the first one.
16. Try to develop automaticity in writing outlines; do not depend on remembering rules.
17. Use word-sign spelling contests.
18. Dictate easy business letters from the beginning.
19. Practice reading notes for speed. Use a stop-watch to time the reading and let the pupils compete.
20. Have pupils read the outlines of other students.
21. Use occasional humorous articles for dictation.
22. Have pupils dictate to each other; have one pupil dictate to the class for a time, then another pupil. The purpose is to accustom pupils to many voices and mannerisms.
23. Vary the rate of dictation, dictate while walking about the room, dictate with back to the class, etc.

24. Make amendments or corrections to the dictation to show pupils how to handle such situations.
25. If possible teach shorthand in the typewriting room and permit pupils to transcribe for a part of the period.

X. *Devices for Typewriting:*

1. Provide desks of various heights to meet differences in physique.
2. Provide individual storage space for each pupil's materials.
3. Avoid the use of nonsense syllables or continuous repetition of one word. Instead find a number of words, if possible in sentences or paragraphs, which contain the combinations on which practice is desired.
4. Do not require perfect copies, particularly at the start, for pupils tend to become discouraged under such requirements. Business typists do not always write perfectly.
5. Have advanced students take letters from the Dictaphone or Ediphone.
6. Give dictation direct to the machine occasionally.
7. Assign advanced pupils to faculty members for a few hours a week, to act as stenographers or typists.
8. Provide frequent relaxation periods.
9. On the first day pupils want to try to use the machine. Instead of lecturing to them about typing, let them type. Ask them to write you a letter on the machine.
10. After they have written the letter give them a demonstration of the proper use of the machine. They will be impressed by even very meager speed.
11. Give special practice on the 1000 commonest words.
12. Do not penalize errors as severely for beginners as for advanced pupils.
13. Use single periods rather than double periods. Double periods were shown to be unwise in the St. Louis survey.
14. Train pupils to be able to type under noisy and distracting conditions.

15. Give achievement tests periodically and have each pupil keep a progress chart. The teacher should keep a chart of class averages.
16. Try to interest pupils in the prizes and awards offered by the typewriter companies.
17. Organize pupils into balanced groups for co-operative study and inter-group competition.
18. Teach pupils how to erase properly. All commercial typists have occasion to erase.
19. Have all beginning typists use the same make of typewriter. Advanced pupils should be made familiar with all the standard makes.
20. In tests, count strokes rather than words.
21. Teach pupils to compose answers to questions, themes, and various other articles, at the machine.
22. Construct a short letter containing all the characters on the keyboard and use it for warming up and review. (See page 23, *Vocabulary Method,* by Birch & Ellis Publishing Co.)
23. Secure pictures of experts and articles or stories about contests.
24. Secure experts to give demonstrations.
25. Permit a limited amount of writing of papers for other classes to be substituted for regular exercises.
26. Avoid use of wall charts, keyboard shields, blank keys, keyboard aprons, blindfolds, and the excessive use of rhythm.
27. Teach pupils to write on letter-head paper of various styles.
28. Have pupils keep continuous records of the letters or characters missed to determine the persistent errors, as a basis for remedial exercises.

Equipment for the teaching of commercial subjects. 1. *Standards for selecting equipment.* The commercial supervisor is nearly always handicapped by lack of equipment because of the heavy cost of proper equipment. It does not require many machines to run into several thousands of dollars, and educational funds are seldom plentiful. Nevertheless workers must be trained to handle all

kinds of machines. A serious question is "which machines to secure with limited funds." The supervisor may set up the following standards in selecting the machines to be taught:

1. Teach only such machines as cannot be easily and quickly taught in the business office.
2. Teach only such machines as are shown by local surveys to be extensively used in the community and for which sufficient positions are open each year to absorb the supply of students trained.
3. When it is impossible financially to provide a separate machine of a given type for each pupil, secure one or two of each desirable type and abandon the idea of attempting to develop a high degree of skill on any one, but be satisfied with providing knowledge of the method of operation, leaving the higher degrees of skill to be developed on the job. Thus, in case of a choice between purchasing twenty bookkeeping machines and thereby exhausting the equipment fund, or the alternative of purchasing one bookkeeping machine, a comptometer, a stamping machine, and one each of several other common devices, it seems best to select the second plan.

2. *A score card for commerce departments.* A proposed list of commercial equipment has been suggested in an article by P. O. Selby, which appeared in the *Balance Sheet* for December, 1926. It is reprinted here, with his permission as an attempt to list and to evaluate the equipment needed. One may disagree with the weights assigned to the various items, but the score card is a praiseworthy attempt to meet a real need. It illustrates the need for a quantitative statement of the type and quality of equipment needed and emphasizes the need for careful investigation of the relative instructional and vocational efficiency of various office machines.[3]

[3] Another valuable set of suggestions, including a lay-out plan for machines and estimates of cost, may be found in *A New Conception of Office Practice* by F. G. Nichols (Harvard University Press, 1927), pp. 35-41.

A Score Card for Commerce Departments[4]

By P. O. Selby

Directions for Use: The score card gives the number of points to be allowed for each feature, if present and in the best of condition. If present and not in the best of condition, score less than the amount allowed as a maximum. If not present and deemed necessary, give no credit. Do not use fractions.

	Possible Score 200
I. Bookkeeping Room	45
A. Size: 15 square feet per student, number of pupils in class not more than thirty	7
B. Equipment:	
1. Desks: Individual, facing the teacher, drawer or locker space for each student and usable without disturbing desk top or neighboring students	13
2. Chair: Adjustable in height, not of swivel type	6
3. Blackboard: Front and one side; slate; of good construction; one section with ledger ruling, one section with journal ruling	5
4. Teacher's desk, teacher's chair, visitor's chair, waste basket and pencil sharpener	8
5. Supply case or closet	3
6. Bulletin board with hinged glass	3
II. Shorthand Room	23
A. Size: Regulation size, class of average size.	4
B. Equipment:	
1. Student tables	4
2. Student chairs: Comfortable and non-folding, preferable	2
3. Blackboards: Three sides, good slate construction; portion permanently ruled similar to stenographer's pad	3

[4] *Balance Sheet*, December, 1926.

4. Charts 2
5. Teacher's desk, chair, visitor's chair, waste basket 3
6. Two pencil sharpeners..... 1
7. Supply case or closet..... 1
8. Bookcase with books and magazines and dictionary 1
9. Bulletin board, with hinged glass lid... 2

III. Typewriting Room 30

A. Size: Larger than average classroom. Class may have as many as 50 students..... 3

B. Equipment:

1. Typewriters: Standard keyboard, pica type, desk typewriter, good condition; machines used by beginners to be all of one make and of late models; other makes and models may be used for advanced students, including portable, wide carriage, elite type, adding attachment, and even non-standard makes 9
2. Typewriter tables or desks: Firm construction, individual, height 26 inches, 32 inches long, 17 inches wide; drawer for typewriter supplies, with brushes and small tools for each machine; drawer for students' supplies. One drawer for each student though these may be kept in a separate cabinet. A few of more than standard height... 3
3. Students' chairs: Adjustable as to height; made to fit the back, comfortable 3
4. Blackboard: front of room..... 1
5. Charts: Keyboard 2
6. Teacher's desk, chair, visitor's chair, commodious provision for waste paper, paper fasteners..... 2
7. Supply case or closet with cleaning fluids; oil, dustcloths..... 2
8. Dictionary on a table..... 2

9. Bulletin board with hinged glass lid.... 1
10. Typewriter covers: Rubberized cloth in good condition..... 1
11. Phonograph and well-chosen records... 1

IV. Commercial Laboratory 22
1. Adding machines, posting machine, calculators 3
2. Mimeograph, multigraph, hectograph, and other duplicating apparatus.... 3
3. Typewriters 1
4. Filing cabinets, box files, filing materials, wire baskets..... 3
5. City directories, railway guides, postal information guides, telephone directory, dictionary, and other business books 3
6. Protectograph, paper fastener, numbering machine 2
7. Supplies for various machines, cleaning materials 2
8. Teacher's desk and chair, waste basket, pencil sharpener, telephone, and utility table 3
9. Dictaphone 2

V. Other Rooms and Equipment..... 30
A. Adequate classrooms properly supplied with chairs, teacher's desk, waste basket, visitor's chair, blackboard, and supply cases or closets 15
B. Special Equipment 15
1. Commercial geography 6
(*a*) Maps 2
(*b*) Globe 1
(*c*) Stereopticon and 250 slides well chosen 2
(*d*) Collections 1
2. School Bank 5
(*a*) Fixtures 3
(*b*) Bank forms 2

3. Practice Office 4
   (*a*) Office furniture and rug.... 2
   (*b*) Typewriter 2

VI. General Features (After Strayer-Englehardt)..... 50

A. Location: Department should be located as a unit group; a central location may be desirable for a school bank and other utilities. Location near principal's office in small buildings permits double use of some equipment. Corner location makes for less disturbance of other departments by noisy machinery 9

B. Light: Natural and artificial. Glass space: One-fifth to one-fourth of area of floor, determined by latitude and presence or absence of light obstructions. Windows: Location on long side of room only for left-hand lighting; 34 inches to 38 inches from the floor, plain glass; distance between windows should not exceed 12 inches, 4 to 6 feet dead wall space at front end of class room; clear wire glass should be used where windows adjoin fire-escapes; where rooms are 12 feet high and windows reach approximately to the ceiling, maximum width of room should not exceed 24 feet. Shades: Should be translucent, adjustable; hung from the center of the window, color of shades should harmonize with color of walls, preferred color bisque or light sage. To darken rooms, opaque shades should also be provided 9

C. Walls and ceilings: Plastering, finish, texture, condition picture mold, chair rail. Plastering should be hard, smooth, non-gloss plaster 7

D. Floors: Should be in good condition, without cracks, checks, splinters, loose boards, or projecting ends; standard floor is hardwood, durable, well-joined and not dust

retaining; or cement overlaid with battleship linoleum 7

E. Electric outlets: Should be well provided with wall outlets in all rooms, especially in the commercial laboratory and practice office 5

F. Heat: A good heating system, adequate.... 7

G. Ventilation: A good ventilating system or good ventilation by means of windows without a draft passing over the students. 6

3. *A check list of commercial supplies.* In addition to the score card given, there is listed below desirable equipment for the consideration of the supervisor. It may serve as a check list to help recall necessary items which might otherwise be forgotten.

List of Commercial Equipment and Supplies

Textbooks, basic and supplementary
Teachers' manuals
Teachers' plan books
Teachers' record books
Pupils' exercise books, bookkeeping sets, junior business training budgets of forms, secretarial budgets of forms, etc.
Interest and discount tables
Penmanship scales
Dictionaries
Business reference directories and guides
Transportation guides
Maps
Globes
Stereopticon
Lantern slides
Curtain or screen for slide projection
Counter for salesmanship demonstrations
Metronome
Copyholders for typewriters
Paper cutter
Tools for repairing typewriters
Oil cans
Blackboard erasers
Cleaning cloths and brushes
Envelope sealer
Stamp affixer
Addressograph
Coin counting and changing machines
Time clock
Typewriters
Multigraph
Photostat
Dictaphones
Ediphones
Dictaphone or Ediphone record, both permanent and wax

Telephone switchboard
Bulletin board
Clock
Pupils' desks
Blackboard
Electrical outlets
Storage closet
Storage cabinet or desk drawers for materials of students—individual
Book cases
Filing cabinets and supplies
Styli for stencils
Stop watch
Window stick
Inkwells
Pointer
Wastebaskets
Pencil sharpeners
Calendar
Rubber stamps
Dater stamps
Stamp pads
Paper punch
Stapler
Postal scales
Phonograph
Phonograph records
Rhythm records
Adding machines
Calculating machines
Bookkeeping machines
Billing machines
Electric typewriter
Check protector
Numbering machine
Mimeograph
Mimeoscope
Gelatin process duplicators
Thumb tacks
Ink
Chalk
Rubber bands
Duplicating ink
Duplicating ribbons
Duplicating carbon paper
Blotters
Paper clips
Business forms
Carbon paper
Stencils
Cross section paper
Test materials—prognostic, inventory, diagnostic, achievement

The measurement of the results of teaching. During the past few years there has been developed a great deal of interest in more objective measurement of commercial education, in experimentation under controlled conditions of various methods of teaching, and in surveys of the status of problems connected with commercial education. All this is a part of the more extensive general movement for measurement all through the field of education. If predictions may be made from the experiences of other departments of education, this movement will increase in scope.

More and better tests will be constructed and used, and more and more teachers will be expected to be able to use and to construct measurement devices.

It is no longer necessary to justify the use of tests. That stage is past. Measurement is no longer on the defensive, although it may be perfectly true that some measurements are faulty and that some are unwisely used. To-day the teacher or supervisor who tries to dismiss measurement with derisive comments and a contemptuous attitude finds himself classified as out-of-date.

The supervisor must, therefore take a decisive stand for statistical evidences and must use and stimulate them to the utmost of his ability. He must encourage teachers to use such devices as appear to be reliable, must assist them in interpreting the results of their use, and must make the readjustments the results indicate to be necessary. Moreover, he must contribute to the construction of tests in fields where they are not now available and in the construction of better ones for the departments where tests already exist.

Testing and the building of tests are, however, only one part of the measurement movement. When to the existing achievement tests there shall have been added prognostic and diagnostic and inventory tests, there will still remain the need for experimentation to determine the best methods of instruction, and the need for surveys to determine the status of such matters as: (1) the occupations available for commercial graduates in the local community and the outside communities to which numbers of the pupils sooner or later move; (2) the occupational histories of graduates in order that promotion avenues may be revealed and proper training provided; and (3) activity analyses of the occupations discovered, in order that the commercial syllabi may be modern and that they may include the items necessary for vocational success and that the syllabi may exclude and

abandon methods and topics no longer used in the business world.

Instead of argumentation about competing methods of teaching any given items or series of items, teachers must be encouraged and educated in the technique of conducting controlled group experiments, based upon objective measurements of results, to determine the actual relative merits of the competing methods. Furthermore, since individual group experiments are nearly always indecisive because of the small numbers of cases included, cooperative group experiments should be encouraged, so that the results may be made sufficiently reliable to justify adoption of the findings secured. It is therefore a part of the supervisor's duties to encourage teachers, untrained in statistical methods, to secure such training; to select new teachers who are thus trained in preference to teachers lacking it; and to offer rewards in the way of commendation, salary increases, and promotions to the teachers who display the proper attitudes toward measurement and who contribute to the movement.

In the bibliography which follows this chapter are given references on methods of measurement, on available tests, and on significant surveys which have been reported.

Types of errors in teaching and methods of eliminating them. Instruction in business education has many of the same faults as has instruction in other departments, but its failures are, perhaps, more noticeable because of the direct evidence of efficiency or inefficiency that practice in business positions gives. While it may be true that commercial teachers formerly had fewer facilities for securing training than was the case with academic teachers, the modern commercial teacher may, if she selects the proper institutions, secure training which is at least as good as that of other departments. Therefore, allowances should no longer be made for failures or weaknesses in business instruction;

commercial teachers should be held to as high a standard of instruction as are the teachers of any other subjects.

1. *Improper emphasis in teaching procedures.* In the skill subjects like shorthand, typewriting, and penmanship, there is a tendency for teachers to attempt to prevent errors by very careful and minute direction at every step of the process. While the reasons for the use of such methods may be commended, the practice is dangerous because of its tendency to develop the type of individual who is helpless without specific guidance and direction, when he goes into a business office, because he will never have had to think for himself. Possibly such methods are responsible for occasional criticisms by business men to the effect that students lack initiative and resourcefulness. If we were attempting to train automatons who would do exactly as they were told and no more, such methods might be desirable, but in a modern world, where initiative and resourcefulness are so important, it seems criminal to train such traits out of the student by overelaborate dictation and domination. Development of self-reliance, self-control, and judgment is probably more important than doubtful gain in accuracy in skill subjects, but such traits are not secured by teacher domination. Teachers should think not only in terms of knowledge and skills but also in terms of desirable attitudes and traits.

2. *Faulty types of teaching.* Many other faulty types of teaching are found. The following list includes some of those most frequently discovered:

TYPES OF ERRORS IN COMMERCIAL TEACHING

1. Teaching from the textbook only
2. Correcting papers in class and neglecting the class
3. Attempting to teach high-school pupils by undesirable collegiate methods
4. Failure to keep up-to-date
5. Failure to use objective measurement devices

6. Failure to attempt to make contributions to better instruction
7. Failure to contribute proper share of effort to extra-curricular activities
8. Refusal to permit students to use office equipment because of fear that it may be broken or stolen, particularly if used after school hours
9. Failure to provide specific graded exercises of increasing difficulty for the development of character traits; dependence instead upon incidental methods
10. Failure to keep classroom activities within the life experience scope of the pupils
11. Failure to provide for individual differences in ability
12. Failure to make daily lesson plans
13. Failure to provide help to pupils in securing positions
14. Failure to keep in touch with pupils after they secure positions
15. Failure to keep in touch with business men and to participate in their activities and organizations
16. Talking too much during class periods
17. Failure to grade on objective bases

3. *Methods of overcoming faulty teaching procedures.* Probably the only really effective method of overcoming faulty methods of teaching is to create in each teacher an adequate philosophy of teaching that will: (1) cause her to become critical of all methods; (2) create in her a scientific attitude; and (3) cause her to measure up all her activities with such a philosophy. Since it is extremely difficult to develop such a philosophy or to instill it into teachers, other methods, less effective perhaps, must also be used. A list of faulty methods may be presented to teachers for their perusal with suggestions that they appraise their own methods with the list. The rating scheme for teachers may be planned for many purposes: (1) it may be constructed so as to emphasize better methods; (2) supervisors may adapt it to their immediate needs as they discover faulty procedures in their classroom visitation; or (3) teachers may be encouraged by it to secure additional

training through extension study, evening or Saturday classes, summer school, leaves of absence, the reading of professional books and magazines, and attendance at teachers' conventions. A list of standards for the improvement of instruction may be constructed by the supervisor or by committees of teachers and distributed to teachers so that they may know what is expected of them. Many teachers are using faulty methods because they do not know of better ones, some may be lazy, and some perhaps have become careless or uncritical. They will all probably attempt to use the methods approved by the supervisor if they are educated in a manner skillful enough not to arouse their animosity. The supervisor's approval or disapproval is a matter of considerable weight with the average teacher.

Standards for the improvement of teachers. Teachers find great difficulty in keeping in touch with all the newest movements in their specialized fields of instruction because, in commercial education particularly, there is no outstanding publication that attracts articles of merit. Instead, there are several house organs of publishers of commercial textbooks, and about half a dozen of commercial teachers' magazines operated for the purpose of making profits for the owners. Few teachers are able to subscribe to all the available magazines; public libraries seldom have them because of their specialized nature and the limited demand, and as a result teachers are often uninformed. Even the supervisor ordinarily has difficulty in keeping abreast of all the movements arising in this field of education, for the number of new ideas being suggested is surprisingly large. Even if the teachers knew about the new ideas, they might perhaps be unable to discriminate wisely between valuable suggestions and those which are not reliable.

1. *The need for specific criteria for judging teaching.* There is need for aid of some definite sort here. One means

of providing such aid is through the preparation of "standards for the improvement of instruction." These are nothing more than specific and unitary and positive statements of desirable things to do in the classroom. Samples of such "standards" or "items to observe" are as follows: "In typewriting, does the teacher encourage students to write as accurately as possible without, however, requiring absolute accuracy?" "In typewriting are students given definite instructions of proper techniques for erasing errors?" "Are periodic tests given?" "Does the teacher correct papers at her desk during the class period?"

There is perhaps some danger that such a list of items will stifle the creative effort to develop better teaching methods. However, since few teachers are creative enough to experiment and devise their own methods for the improvement of their teaching, the effect of the list will on the whole be beneficial rather than harmful.

2. *The construction of itemized standards.* Such a list of items might well be constructed by the supervisor for his use in classroom visitation. It would provide an objective rating infinitely more desirable than subjective impressions and haphazard, purposeless observation. If a list of items such as this were prepared by the supervisor and continually revised as he received new ideas, it might be extremely effective in stimulating better instruction, provided it were explained and discussed, when distributed to teachers. If teachers knew that the items on this list were the things looked for and expected by the supervisor, and if they knew that their salary increases and promotion depended upon them, they would probably be eager to adopt them.

Where the principal is the only supervisor available and where he lacks specific knowledge of the subject matter and methods of a particular subject, he might be able to

do much to help teachers when they come to him for aid if he could give them accepted lists of such standards. Therefore the following "standards for the improvement of instruction" are provided. It should be understood that some of them are less objective than is desirable and that varying conditions may cause a given item to be more desirable in one situation than in another, but, in general, it is believed that such a list is valuable. Through the joint activities and efforts of the supervisor and of committees of commercial teachers, they may be used as points of departure for the development of similar but better lists.

ITEMS TO OBSERVE IN TYPEWRITING

1. Do all beginners use the same make of typewriter?
2. Do advanced students receive training on all the common makes of machines?
3. Are the desks or seats adjustable?
4. Are the seats of a proper height for the pupils who use them?
5. Are they adjusted properly for the students who use them?
6. Is there a phonograph available?
7. Are rhythm records provided?
8. Are the awards tests provided free by the companies whose typewriters are used?
9. Are the desks firm and free from wobbling?
10. Are current business magazines found in the room?
11. Are pictures of typing experts and of typing awards posted in the room from time to time?
12. Are the machines in good repair?
13. Are brushes, dusting cloths, and oil available for cleaning the typewriters?
14. Is there a supply closet or cabinet in the room?
15. Did the pupils dust each machine used during the class period?
16. Is there a dictionary available?
17. Are the typewriters free from blank keys or keyboard shields?
18. Are copyholders available for each typewriter?
19. Is there a bulletin board?

20. Is adequate dictaphone equipment available?
21. Is there a mimeograph available?
22. Does the teacher have a stop-watch for timing purposes?
23. Are the classes homogeneous; that is, are the students all doing the same kind of work or are students of several courses typing all in one room?
24. Are single periods used instead of double periods?
25. Are pupils permitted to use the typewriters during their vacant periods or after or before school hours?
26. Are the desks placed so that the teacher has easy access to each?
27. Are exceptional pupils given full credit for finishing the course in less than the regular time?
28. Does the teacher walk about the room, giving individual instruction during practice time, instead of correcting papers at his desk?
29. Does the teacher have a daily lesson plan?
30. Does the recitation start immediately upon the ringing of the final bell?
31. Are the class exercises free from the writing of nonsense syllables?
32. Has the teacher explained the meaning of the kinæsthetic theory of touch typing?
33. Are errors penalized more heavily for advanced pupils than for beginners?
34. Does the teacher hold the theory that speed and accuracy must be developed simultaneously and not that accuracy must be developed before speed?
35. Do pupils keep their elbows close to their sides while typing?
36. Do pupils keep from looking at their fingers as they write?
37. Do pupils keep from looking up from their copy at the end of each line?
38. Does each pupil know his persistent errors?
39. Do pupils periodically compare their achievements with norms?

Items to Observe in Commercial Arithmetic

1. Does the teacher give objective achievement tests?
2. Are actual sales slips, time slips, or other business forms used for problems?

3. Do pupils keep individual records of progress in the fundamentals?
4. Are pupils taught to compute interest from interest tables?
5. Are problems provided in which the pupils are asked to determine the processes used but not required to calculate the answers?
6. Do pupils correct their own work from dictated answers or correct papers of other students instead of having the teacher check all papers?
7. Are pupils permitted to use adding or calculating machines if they are available?

Items to Observe in Bookkeeping

1. Does each pupil have a private locked receptacle for his materials?
2. Do pupils erase errors in their books instead of making counter entries or voiding them by red ink lines? (They should follow the latter procedure.)
3. Are any provisions made whereby pupils can work at different rates and still be kept busy?
4. Are objective bookkeeping tests used?
5. Does the teacher refer to her manual in order to answer questions?
6. Does the teacher require students to memorize rules? (In general he should not do so.)

Items to Observe in Shorthand

1. Do pupils use pens instead of pencils?
2. Do pupils use regulation shorthand notebooks instead of loose sheets of paper?
3. Does the teacher dictate to advanced pupils in varied rates of speed during a single letter instead of at a given even rate?
4. Are objective tests used?
5. Is cross-section paper used with beginning classes to help determine relative sizes of characters?
6. Are flash cards used for drill?
7. Is a stop-watch provided for the teacher?
8. Are letters dictated to beginning classes rather than mere words or sentences?

9. Do pupils compete in reading their notes under timed conditions?
10. Are shorthand dictionaries available?
11. Do pupils write their outlines with rapid easy motions with no pauses in any one outline?
12. Do pupils know the norms of achievement expected of them?

Items to Observe in Junior Business Training

1. Is there a bulletin board with current news of interest to pupils?
2. Are pupils taken on observation trips to business houses, factories, etc.?
3. Are pupils permitted to use available office machines?
4. Are pupils taught how to make out proper applications for jobs?
5. Do pupils continue with their work when the teacher is busy with something other than the recitation?
6. Are former pupils invited to come in to talk to students?
7. Are business men and others invited to talk to pupils?
8. Are penmanship tests given?
9. Are spelling tests given?
10. Are pupils taught to fill out properly the business forms commonly used, particularly those used in the local community?
11. Are pupils taught to make out personal budgets?
12. Is the assignment given before the bell rings for the close of the period?
13. Is any definite provision made for the development of essential personal traits other than incidental talks, reading, and the like?
14. Do pupils fill out personality charts?
15. Do pupils answer all telephone calls?

Items to Observe in Commercial Law

1. Is there a state legal code in the room?
2. Are technical legal terms explained so that students understand them?
3. Are mimeographed abstracts of cases given to pupils as problems?

4. Are pupils' names substituted for the names in the cases studied to add more interest to them?
5. Are pupils required to memorize rules and principles? (They should not be.)
6. Are local cases discussed in the classroom?
7. Are pupils taken on visits of observation to city hall, county offices, courtrooms, etc.?
8. Do pupils ever put on a mock trial?

It may have been noted that, in the items given above, little mention was made of general matters of classroom discipline, methods of questioning, reviewing, and the like. The reason is that the presentation of concrete objective items to observe is very difficult and it is desired that subjective items be avoided. There is available an excellent list of general standards for such items in *Elementary School Standards for the Improvement of Teaching* by A. S. Barr of the University of Wisconsin.[5] By using the items suggested there, together with the items presented above, and by supplementing them with many others assembled by the supervisor and committees of teachers, one should be able, within a relatively short time, to provide valuable lists of standards for the improvement of instruction in each commercial subject found in the curriculum and to have them fit the local conditions.

Keeping up with the literature of commercial subjects. The commercial teacher ordinarily has a good deal of difficulty in keeping up with the literature of his subjects, particularly in small towns where library facilities are meager. With a dozen or more magazines carrying articles with which he should be acquainted, he finds it too heavy a financial burden to subscribe for them all. Conventions of teachers are educative, but the cost, particularly for the national ones which attract the best talent, is very heavy. Many teachers lack training in statistical procedures and

[5] Edwards Brothers, Ann Arbor, Michigan, 1924.

are unable to read understandingly the articles which deal with such subjects. Books, other than those on subject matter, are scarce and are, like any books, a year or two behind the times before they can be printed and distributed. Anything that the supervisor can do to help teachers to keep informed will be well worth while. Some possible aids in this direction are given below:

Have each teacher subscribe for one or more magazines, but deliberately plan to have them different. Such magazines can then be pooled so as to be available for all.

Encourage school and public librarians to watch for articles or abstracts of articles of interest to commercial teachers in the many magazines they handle daily, and to send to the supervisor notices of any articles discovered.

If possible, have the school library or the library at the board of education offices secure copies of all new books on commercial education.

Watch the book reviews and abstracts of magazine articles in the *Journal of Personnel Research* and similar journals carrying such sections.

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CHAPTER IX

THE SUPERVISION OF HOME ECONOMICS

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The general supervisory problems of home economics. It is only in larger cities that a special supervisor of home economics is employed, the common practice in smaller cities and towns being for the superintendent or principal to supervise this subject as well as others in the school curricula. With the growing content of subject matter in secondary schools, the task which confronts the principal as supervisor is a complex one. In home economics he is called upon in a general way to provide space for the department, time in his program, proper library facilities, and an adequate budget. The progressive principal is not content, however, to have his services end here. He has certain convictions concerning the worth of this subject, or he would not provide a place for it in his curriculum, and he is anxious to understand more fully how it may play its maximum part in the school program.

In the performance of his duties there are certain questions, both administrative and supervisory in nature, which present themselves from time to time with reference to the subject of home economics. A few of the more persistent questions toward which a study of this kind may help to render some assistance are the following:

1. What are the objectives for home-economics teaching?
2. What types of classroom procedure are best suited to the teaching of home economics?
3. What differentiation shall be made between the junior and senior high-school courses in home economics?
4. Are the values set forth for home economics, or at least some of these values, applicable equally to the life of the boy and the life of the girl?

Objectives of home-economics teaching. General home-economics objectives are very similar in nature to those of other secondary-school subjects. The more specific objectives of home-economics teaching are dependent, however, upon the group to be taught. At least three groups will need to be kept in mind in senior high-school teaching: (1) pupils who elect home economics as an aid to future home-making; (2) pupils who take this as a preparatory course for college work in home economics; and (3) pupils who plan this course to assist themselves in personal living.

Obviously the objectives for the first two groups are more vocational in nature than those of the third group, which are cultural in nature. The first group is probably best exemplified by the students who elect home economics in the Smith-Hughes high schools of the country.

Where the aim is vocational, greater emphasis will undoubtedly be placed on the nine technical phases of the subject together with the necessary related science and art. Skills in home-making may figure largely in this objective. This does not mean, however, that many of the objectives of vocational and nonvocational groups may not be the same. Appreciations, judgments, and standards will need to figure largely in the home economics of both types.

The aim of the cultural course in home economics is "not to have the student become an expert, skilled in any one branch of home economics, yet she will know the paths

which lead in these directions."[1] It is to prepare students to fit into the life in their present homes. Any course of this type aims to help the girl to develop an appreciation of her immediate environment and enables her to realize that the intangible structure which we call a home is greater than any of its parts. It will help her to understand some of the social relationships in the home, the relative values of various home-making activities, the responsibilities of the home-maker, and economic problems having to do with maintaining a home.

Where the course is clearly that of personal living or "personal regimen," the aims become more personal and are concerned chiefly with knowledges, appreciations, and judgments of phases of home economics having to do with the more intimate life of the girl. These may be the selection of food and clothing, maintenance of health. the use and care of money, and home activities.

The objectives of home economics in the junior high school should be nonvocational and exploratory in nature. This is the trying-out time, during which the girl finds out where her greatest interest in home economics lies. No attempt should be made to develop skill to the point of perfection along home-making lines, but rather ability to assist in the routine tasks of the home should be developed and good working habits established. Some of the more specific objectives are the ability to prepare and serve simple foods, the construction of simple garments, the intelligent care of young children, the daily care of the girl's own room, intelligent spending of the personal allowance, and the development in the student of habits of health.[2]

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[1] David Snedden, *Home Economics Education* (Bureau of Publications, Teachers College, Columbia University, 1924).

[2] "Home Economics for More Girls," *Home Economics News Letter*, No. 2, 1927 (Bureau of Education, Department of the Interior), p. 14.

The content of home economics. Home economics has been defined as a study of food, clothing, shelter, home management, and the family, viewed from its social, economic, scientific, and æsthetic aspects.[3] The wide range of subject matter included under this term to-day represents a gradual evolution from the meager program of a few years ago which provided for cooking and sewing only.

Because of the rapid growth of this subject much confusion has arisen concerning the terminology, and principals frequently find that courses are variously listed in different schools. According to a recent curriculum study made of one hundred home-economics courses of study in various parts of the United States, the leading subjects commonly taught in junior and senior high school are food, clothing, the house and its care, income and spending, child development, home and family relations, health and the home, art and the home, and science and the home.[4] In this subject matter were included 127 leading topics dealing with portions of the subject frequently taught as separate courses or units.

1. *Methods of determining content.* In past years it was the usual custom for the home-economics teacher to determine the content of her courses of study by consulting her college notebooks and various courses of study used by other schools. To-day it is no such easy matter, for the functional methods of determining curriculum content are largely superseding those of the structural type.

Since subject matter in home economics should be an outgrowth of home activities and needs of the girls, surveys have been very successfully used in some cities to

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[3] Agnes K. Hanan, *Home Economics in Elementary and Secondary Schools* (Whitcomb & Barrows, 1922).

[4] Annie R. Dyer, "The Placement of Home Economics Content in Junior and Senior High Schools," *Home Economics Curriculum*, Study 1 (Bureau of Publications, Teachers College, Columbia University).

determine these activities and needs. The reorganization of the home-economics curriculum in Denver (1923-4) was based upon this method and the data obtained from it. Opinions of objective-minded persons as to what should be included in the curriculum is another method which has been employed with some success. The formulation of a required course in home economics for boys in Tulsa, Oklahoma (1925) was based upon suggestions received from a questionnaire sent to large numbers of parents. Studies of consumer activities and shortages, from the standpoint of the adult, have also resulted in some valuable data for curriculum-building. Chief among these are the investigations made by Harap [5] along economic lines affecting home economics, and textile investigations conducted by Miss Mabel Trilling.[6]

Analysis of the home-maker's task and of the traits necessary for home-making furnish valuable material for certain types of curriculum-building, particularly that of the vocational type. Charters has conducted a survey of home-making traits which has proved helpful to home-economics people.[7] Critical analyses of modern courses of study provide an excellent method of revealing present-day trends in home-economics teaching. The most outstanding study of this type is that conducted recently by Dr. Annie Robertson Dyer.[8]

Other methods of selecting content that have been used in various educational fields but have been little employed in home economics are the pooling of opinions of "frontier thinkers" in social and economic fields relating to problems

[5] Henry Harap, *The Education of the Consumer* (Macmillan Co., 1924).

[6] Mabel B. Trilling, "Study of Objectives in the Teaching of Textiles," *Third Yearbook* of the Department of Superintendence, pp. 31-32.

[7] W. W. Charters, "The Traits of Home-Makers," *Journal of Home Economics*, December, 1926.

[8] Dyer, *op. cit.*

of the home, studies of pupil likes and dislikes in home-economics subjects in order to reveal weak spots in the teaching, and a critical study of present-day magazines, books, and newspapers for the purpose of revealing contemporary problems that affect the home.

2. *Emphasis in content.* Recent studies in the subject matter of home economics reveal interesting tendencies and emphases. The subject matter in home economics is changing to meet new social conditions and is being adapted to the individual needs of the girls to be taught, rather than preparing all of these for future home-making. The content is probably too large for the time given to it in the average school at present. There is a growing tendency to organize this subject matter into units. Unfortunately, there is much repetition of content in various grades, but on the whole the subject matter for junior and senior high school is somewhat adapted to meet the needs of these two groups. Emphasis in subject matter is being placed on income and spending, child development, home and family relations, and managerial phases of home life. These are treated largely from the point of view of the consumer with the healthful, artistic, and scientific aspects of the subject in mind.[9]

3. *Selection and organization of content.* It is obvious from the large amount of subject matter now included under the term *home economics* that it is neither possible nor desirable to include this material in its entirety in all the schools. The larger schools with a four- or six-year program can probably cover a wide range of home-economics subjects, whereas the one-teacher department will find this impossible. It is, therefore, the task of the principal and teacher to select the material that will best fit the needs of the group and function in their lives at the present time.

The type of home economics offered for the junior high

[9] Dyer, *op. cit.*, pp. 105-106.

school must be carefully differentiated from that given in the senior high school. Duplication of subject matter has been all too common in the past. In determining the necessary content for each, the following considerations might be kept in mind:

1. What objectives have been set up for the junior and the senior high school?
2. What are the relative interests of the students in regard to certain subject matter?
3. What is the relative importance of this subject matter in the lives of the students?
4. Is the subject matter suited to the capacities of the students?
5. Can the subject matter be adequately obtained outside the school room? [10]

Interests and activities in the junior high school. Since it is of paramount importance that the teacher and principal understand pupil interests and activities at different ages in planning content, it may not be out of place to list a few of these in this connection. This is the age at which pupils are keenly interested in making things happen and in seeing results. The span of interest is short in young girls; therefore the problems which they undertake should be short, with an end in sight which they can attain successfully and speedily.

The younger the child, the more emphasis there should be upon the use of the larger muscles, and the less demand for fine muscular coördinations and close work involving eye strain. In sewing, this is the time to teach the use of the sewing machine; even younger children can learn to use a machine easily. In handwork the children should use large needles to make easy stitches on soft, but not sleazy materials. Their love of color should be recognized; this is a good time to teach effective color combina-

[10] Adapted from Henry Harap, *Economic Life and the Curriculum* (Macmillan Co., 1927), p. 51.

tions. A most discouraging sight to see is that of a little girl trying to learn to sew, pushing a sticky needle by main force through thick muslin, soiled from much handling; instead let her run up those stiff seams on a machine, as good sense will tell her she ought to do. Then give her something pliable and colorful with a big needle which is easy to thread, and she will have no difficulty in learning the hand stitches.

In food courses, it is the younger girl who is on tip-toe to do things; she is impatient of all "talking" which delays actual manipulation. She keenly enjoys beating and stirring and kneading and even scrubbing. This is the time to teach cooking processes when the rising of bread dough is watched with eagerness, and the "popping" of a pop-over is miraculous. She can be taught to like any food if it is the work of her hands, and she can scarcely wait for a chance to make it at home for her father. Housekeeping duties, involving polishing and cleaning of all sorts, have an appeal at this stage of development. There is a joy in making silver shine and in seeing finger-marked woodwork become bright and clean.

Health habits, particularly if the teaching of such habits carries with it drill or competition, are interesting to the girl during these years. Not only is positive health a thing to be desired, but she is anxious also to minister to other people and to try to make them well. First aid and home nursing and health teaching are deserving of a place in the junior high-school program.

At this age she borrows the neighbor's baby and wheels him about; he is more interesting now than her dolls, and she is still young enough to be unashamed of her adoration of babies. This is the time to teach her how to help care for him, to keep him clean and comfortable and happy; what toys to give him, what stories to tell him as he grows older, what songs to sing to him, and how to guard him

from being frightened and made unhappy. This is not at all beyond her comprehension, and she will be most faithful and loyal in carrying out such instructions. A little later she will feel older and more sophisticated than she ever will again in her life, and during that stage she must conceal her love of babies as indicating extreme youth.

Interests and activities in senior high school. As the girl passes into the ninth and tenth grades, she becomes more introspective. Her paramount interests are her personal appearance and her relation to social conventions. For example, she is more interested in clothes from the standpoint of color and line and design, as they look on her, than from the standpoint of hygiene or durability. Since there is a good deal of the creative artist in her, she can be encouraged to plan and design garments and their decoration. She is interested in table service because it will help her in the adjustment to the social world, which seems so important to her at this age.

She is not at all interested in scrubbing and cleaning, but, if standards have been established earlier, she will live up to them with the least possible effort. This is the time to demand only the minimum of such work. She is easily bored with manipulative processes in foods, particularly if they seem to be a repetition of what she "did last year." This is the time to stress nutrition and food study for there is an out-reaching curiosity into the *how* and *why* of things, which can be satisfied by experimentation, books, and study. She should be given an opportunity to read and discuss material of advancing difficulty, which will challenge her best efforts, and which will not be a survey of a confused mass of information but a thorough study of a selected section.

She displays an increasing amount of executive ability and is willing and able to assume responsibility. Every

opportunity should be given to develop this in her school life and in her extracurricular home-economics activities. This may be developed in home-economics clubs, in home projects, in the school lunch room, in the planning and preparation of school banquets, and in community enterprises in which she may assist.

The physical aspects of child care interest the girl but little at this age. She is, however, alert to the things which children do and how they act; this makes possible the study of the psychological phases of the subject. There is also an awakening interest in home and civic affairs, since she is gradually assuming more responsibility in family life and is beginning to develop civic consciousness. Courses dealing with social and economic phases of family life, such as home management, family relationships, and home-planning and decoration may assume real meaning when planned in the senior high-school course in home economics.

It is obvious from the foregoing suggestions that home-economics courses in the junior high-school years should deal with the fundamentals of the subject. They should provide a foundation for the more specialized work to follow, should deal with activities carried on in the child's everyday life, and should give a working knowledge of processes carried on in the home with a view to developing a body of good habits relating to thrift, neatness, health, and good conduct.

Home-economics courses in the senior high school should deal with the more abstract phases of the subject. They should be based on the courses in junior high school and should be of increasing difficulty so that they may provide for "mental pull." The subject matter should provide for the personal needs of the girl as well as home problems and family and community relationships. It should provide a study of the psychological, sociological, and eco-

nomic aspects of the subject [11] with the end in view of developing powers of judgment, an investigating spirit, family and group responsibility, and future interest in a career or in her own home.[12]

Home-economics courses for boys. Where home economics is given before the junior high-school years, many schools give the same type of work to both boys and girls. The courses are usually planned as a part of the industrial-arts or social-science program and are most frequently taught by the regular elementary teachers. During the past few years there has been a growing tendency to offer courses in home economics to boys of both junior and senior high-school age. Greatest emphasis has probably been placed on the courses in the junior high school, but the outlook at present seems to be very favorable for more and better courses in the senior high school.

From the standpoint of planning such courses terminology seems to be a very important consideration. Boys, on the whole, do not care to elect regular home economics, because of the implication that it is unquestionably a girl's subject. If, however, the course is listed as "applied economics," "home craft," or under some similar title, much greater interest is shown. The attitude of the principal toward these courses will have much to do with the interest which the boys manifest in them. Where he discusses them enthusiastically with the boys and is eager to set forth the good points the boys will develop new respect for the subject and will be more kindly disposed toward its election.

Since many of the problems and responsibilities of both home and personal life are not peculiar to the girl alone, "it is only fair that the other half of the human family

[11] "Home Economics for More Girls," *Home Economics News Letter*, No. 2, 1927 (Bureau of Education, Department of the Interior), p. 19.

[12] Annie R. Dyer, *op. cit.*, p. 103.

should profit by much of the information which is given with great care and efficiency to women and girls."[13] Where these courses are offered, attention should be given to selecting only such subject matter as pertains to the daily life and interests of the boy.

Camp cookery courses are the ones which have been most frequently given in the past and hold a peculiar interest for junior high-school boys. Other worth-while subject matter which may well be included is that on nutrition and food selection, clothing selection and care, table service (including the duties of a host), budgets, standards of social conduct, health, family relationships, domestic architecture, and the care of the various mechanical devices in the home.

Classroom procedures. In home economics, as well as in other subjects of the curriculum, the more formal and stereotyped methods of teaching are giving way to those which are more informal and developmental in nature. Emphasis is being placed on the individual pupil, her manner of learning, her capacity for growth and the most effective methods by which her powers may best be developed and her experiences assimilated. Problem-solving on the part of the pupil is rapidly taking the place of teacher dictation and domination.

1. *Laboratory method.* The laboratory method, so much employed in years past, is still a necessary and effective means of teaching if handled successfully. Where it is used to develop initiative on the part of the pupils, to stimulate intellectual curiosity and investigation and to solve worth-while problems, it merits an important place in the procedures of the classroom. Much of home-economics experimentation will continue to be carried on by this method.

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[13] Helen Livingstone, "Home Economics for Boys in Public Schools," *Journal of Home Economics*, August, 1925, p. 434.

2. *Demonstration method.* The demonstration method may be employed by the teacher to help explain, or to make clear in the mind of the pupil, a certain procedure usually difficult of understanding. It may be used also by the teachers as a means of reducing class costs, as in cooking, or where the time is limited and the pupils are inexperienced. This method need not take up the entire class period but may occupy only a short time, as is the case where the teacher calls the class together to demonstrate the kneading of a loaf of bread. Where the pupil is especially well qualified to give the demonstration, it is highly desirable to allow her to do so. If the demonstration method is employed, it should be carefully and skillfully done, so that the pupils may receive the desired impression and information.

3. *Lecture method.* The lecture method has little place in the home-economics classroom. Probably the only justification for this method is when it is employed in an occasional talk with slides or an address by a well-qualified person whose function it is to make the work of the classroom more interesting and worth while.

4. *Field trips.* Field trips, if educational in nature, may do much to clarify and make vivid the classroom teaching. To make them profitable, numbers should be limited to enable pupils to see clearly all the processes and materials involved. The teacher should first have made the trip herself in order to tell pupils points for which to look and should, of course, plan the trip when it may form an integral part of the subject studied. Laboratories, stores, factories, and other commercial concerns are usually very glad to render this service to the department. It is seldom that a town is so small that it has no facilities for worth-while field trips. Many successful teachers, however, take their classes to a larger city for a half-day or day at a time to visit various concerns such as dry goods

stores, restaurants, and packing houses for which careful study has been made beforehand.

5. *Recitation method.* The formal recitation or "theory" lesson which consisted chiefly of reciting memorized material, either dictated by the teacher or learned from the text, is fast losing ground and is giving place to other methods. There probably is still justification for the topical recitation, if the material presented is a real contribution to the work of the class. To meet this requirement the pupil must have something to present which she has worked out herself and which has not been assigned to every other member of the class. The material should also be well organized, and presented in such a manner that it will interest every one. It should provoke questions, suggestions, and comments of an educational nature, and the person presenting the material should lead in the discussion.

6. *Contract plan.* Among the newer methods employed in the classroom is the contract plan, which abolishes the daily-lesson assignment and substitutes in its place an integrated unit of work which is challenging in nature and allows the individual pupil to select the work she is capable of doing. Also, within certain limitations it allows the pupil to work forward at her own rate of speed. Home economics, with its wealth of material, is admirably adapted to the use of this method. Probably the greatest difficulty which confronts the teacher is what to include in the different levels of accomplishment designated as "fair," "good," and "excellent."

Since every pupil must elect a "fair" contract as the lowest level of work before going on with the other contracts, it is necessary that the essentials of the subject be included in it. Many teachers prefer to include the necessary laboratory exercises in this contract. If so, this should be planned so that a number of the pupils, rather

than only an individual, may profit by this work at the same time. This provides for economy not only of materials but also of the time of the teacher. "Desirables" or additional work on the subject which the teacher thinks may prove valuable will be included in the "good" contract, and subject matter calling for original effort, a wider or more intensive study of materials, or, in fact, enrichment of any kind may be included in the "excellent" contract.

For example, a contract on vitamins would probably not include experimental work with animals on its simplest or "fair" level, as it is not necessary that all students experiment with animals to establish fundamental conceptions of the vitamins and their relation to the health and well-being of man. Instead, important subject matter which might be included in this contract would be the kinds of vitamins, sources, the effect of heat and chemicals on them, their relation to health, and vitamin-deficiency diseases.

In addition to this study it is desirable that pupils of high-school age be allowed to carry on some animal experimentation in order to clarify the ideas received from a study of the "fair" contract, to secure interesting data, and to broaden their experience. This work might profitably be included in the "good" contract. Enrichment in the "excellent" contract might follow several lines of study. One of these could well be an intensive study of the historical aspects of the subject. Pupils will be greatly interested in the scourges which have befallen the human race from time to time through the lack of certain vitamins. Because of this, history may take on new meaning.

Any material planned for the different levels of the contract may vary according to the subject, the needs of the group, and facilities for work. One of the chief things to be guarded against in teaching by the contract plan is an

attempt to make stereotyped contracts fit the needs of all schools and all groups of pupils. Generally speaking, the contract that is planned to cover neither too wide a range of material nor too great a length of time is most successful. Material ordinarily planned for a unit of work, as a study of yeast breads, might be included in a contract. The pupil's interest in the contract is best retained when it does not extend over a period greater than three or four weeks. Some contracts may be completed in a shorter time than this, whereas others, involving certain types of experimental work have to be extended beyond this length of time.

7. *Problem-project method.* Problem-solving methods which present a challenge to the pupil to do real thinking, to weigh values and to develop judgments are being employed in all modern teaching in home economics. In place of having the pupils memorize subject matter from the text, case situations are set up which are of interest to the pupils and which present real life problems to be solved. Instead of merely having the class read what the text says concerning the amount of milk which small children require daily and how this may be incorporated into the diet, a much more vital situation is presented when the class finds out that Mary Brown, a sister of one of the members of the class, is under weight, dislikes milk, and worries her mother because she drinks so little of it each day. The problem which the class sets out immediately to solve is how to get Mary Brown to drink her quart of milk a day and how best to conceal it in the diet or prepare it in a form which will be inviting to her.

The task that confronts the teacher in this type of teaching is to find real problems in the subject matter and then to present them so that they may not seem artificial to the pupil. This involves not only a thorough knowledge of the subject matter, but also a background of

wide reading in fields relating to home economics and civic affairs and a knowledge of pupil and community interests. The teacher must be constantly alert also to utilize the problems presented by the students.

What has been called the project method forms another basis for the use of problem-solving methods. Two types of project are generally considered, the school project and the home project. The school project may be further divided into the group project and the individual project. Project teaching of one form or another has been successfully used in home-economics teaching for several years. The home project forms a fundamental part of teaching in all the Smith-Hughes high schools of the country and is also employed in other types of schools. The project method does not consist of any one method; instead it is a combination of a number of desirable procedures which may be used most effectively for pupil learning. Its aim is to give the pupil experience in living through and solving a particular situation, much the same as she might experience the joy of swimming by actually getting into the water.

In teaching by this method an objective, or goal, must first be set up, preferably suggested by the pupils, but at least cordially agreed to by them and approved by the teacher. This should be carried out as nearly as possible in its natural setting; the home project meets this qualification; but often the project can be carried on at school without artificiality. Means of obtaining the information needed to take the successive steps and to solve the problems which constantly arise must be provided by the teacher. She must be ready to advise, guide, and help at all times, but never to dominate. When the project is finished, she needs to see that it is summarized and shown to the pupils as a complete whole. This may be done by writing in logical outline form an account of the subject

matter covered, by reporting and discussing the subject matter with the class, or by helping to organize it into an exhibit.

The following description of a class project actually carried out by a clothing class will serve as illustration. The members of a class became interested in a little orphan girl, and they were given an opportunity to provide her summer wardrobe on a limited sum of money. This "objective" was adopted enthusiastically. Snapshot pictures arrived with a full description of the child. Then members of the class began to consult little girls of her age, to find out what they liked to wear; and next they began to "shop around" to find out how to get the most for their money. Garments that they decided to make were not chosen because their construction was simple but because they were necessary and desirable parts of that wardrobe. When the box was received, there came in response a most appreciative letter, and more pictures showing the little girl in her new clothes. A logical outline of the subject matter covered would include a study of the hygiene of dress, of color combinations, of textiles and their costs, of many types of construction, and of the clothing budget. Presented as such, it would be uninteresting and disconnected; presented by means of the project described, all of it was alive, full of absorbing interest, and of social value.

The individual project, whether it be carried on at home or in school, is but a modification of the group project. Care should be taken when the pupil is being initiated into project work to prevent her from selecting those of too difficult a nature at first, or the interest which the teacher wishes to develop will turn to discouragement. If the project is conducted at home, instead of in the classroom, it should fulfill the same qualifications of a good project and should furthermore be adequately supervised and

evaluated. If the home project is carried on as a very definite part of the school work, the pupil should be granted school credit for it.

Equipment for home economics. "While plant and equipment can in no sense be a substitute for a good workman, they may nevertheless be wonderful aids to successful workmanship, if they are adapted to the accomplishment of the objective of the job and this relationship is understood by the workman."[14] Home-economics equipment is still in the process of evolution. It is not standardized any more than that in the average home is, but new inventions, new studies, and new materials have done much to improve the quality and type in use.

The selection of equipment should not be left to any one person but should be the task of several agencies such as the architect, school-board members, principal, supervisor, and teacher. In planning and selecting equipment three criteria may be kept in mind: (1) the type should be adequate for the most efficient learning on the part of the pupil; (2) the selection should depend upon the kind of school and the conditions under which the teaching is to be done; and (3) the needs will depend upon the home conditions in the community and the mode of living.

1. *Housing.* The department may be housed either in the school building or in a separate cottage or apartment. One of the best arguments for the cottage plan is that it facilitates the reproduction of home conditions. Separate cottages are being used successfully for home-economics teaching in many parts of this country, particularly in the southern and western parts of the United States. Some school buildings provide for a separate apartment as part of the home-economics equipment. If this is maintained,

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[14] "Plant and Equipment for Vocational Classes," *Home Economics Bulletin*, No. 124, Home Economics Series, No. 10 (Federal Board for Vocational Education), pp. 2, 3.

it should be used to its utmost efficiency and should be a practice apartment rather than a "model" one.

2. *Laboratory accommodations.* Laboratories for home-economics teaching include accommodations for work in foods, clothing, child care, home nursing, laundry, home management, and home decoration. In vocational departments provision is also made for teaching work in related science and art. It is seldom that schools provide separate laboratories for the teaching of all of these subjects; the smaller the school the greater is the tendency to cut down the laboratory space. No more space should be planned than can be used to its full extent. As for any other department, the space provided will depend upon the amount and kind of teaching to be done.

3. *Location.* In considering the ideal location for the home-economics laboratories it is necessary to keep in mind matters of light, ventilation, sanitation, and convenience. The basement laboratories, so much used in the past, fail to meet many of these standards. A recent study made of equipment in seventy-five school systems reveals the tendency to locate home-economics laboratories above the basement floor.[15]

4. *Arrangement in the foods laboratory.* The foods laboratory ought to reproduce the best in the home conditions in the community. The size of this laboratory will depend upon the number of pupils to be accommodated and the style of equipment to be used. The average number of students taken care of in laboratories of schools located in moderate-sized cities is from twenty to twenty-four pupils.[16]

Four different arrangements of equipment are commonly used in foods laboratories: (1) the unit kitchen; (2) unit

[15] Loreen Jacobsen, *Home Economics Equipment*, Bachelor's thesis on file in library of University of Wisconsin, 1928.

[16] *Ibid.*

desk; (3) hollow square; and (4) parallel desk. The arrangement which most closely approximates home conditions is the unit kitchen which is planned so that the laboratory can be divided into small units or kitchens, six or less in number. These are separated either by partitions or railings and contain the essentials needed in the home kitchen as sink, table or cabinet, cupboards, and stove. The unit-desk arrangement provides for the essentials also, but arranges them in a block formation, the table, sink, and stove being used by grouping two or four pupils together.

The hollow-square arrangement provides for desks on four sides of the room with a space in the center. Stoves used are usually the individual plates with which each student is provided. Sinks may be located either in one portion of the room or at intervals in the square. The square, if one of the earlier types, may have but one opening, although many arrangements of this kind have openings on two or more sides. The parallel arrangement is but a modification of the hollow square. Space in the center is eliminated by placing the desks in rows to make them easier of access.

Each plan has its advantages and disadvantages as may be seen from the following table:[17]

ADVANTAGES AND DISADVANTAGES OF VARIOUS TYPES OF EQUIPMENT

	Advantages	*Disadvantages*
Unit Kitchen	Reproduces home conditions in equipment and arrangement	Expensive
	Girls work in family-sized groups	Supervision of work by teachers is difficult
	Pupils may be given varied experience when units are equipped differently	Requires more floor space
		More workers than in home kitchen, so division of work is not comparable

[17] C. M. Brown, and A. H. Haley, *The Teaching of Home Economics* (Houghton Mifflin Co., 1928), pp. 311-313.

ADVANTAGES AND DISADVANTAGES OF VARIOUS TYPES OF EQUIPMENT

	Advantages	*Disadvantages*
Unit Desk	Saves pupils' time, since equipment is all together The arrangement lends itself to modification which will meet the standards of living in the community. Requires minimum expenditure of funds	All pupils do not face the same way—difficult for giving directions and demonstration work Difficult to have a place for stools
Hollow Square	Desk work is easily supervised by teacher Pupils can see demonstrations easily	Waste space in center of square Some pupils walk a long way to reach supply table Pupils too scattered for satisfactory discussion Arrangement does not approximate home conditions
Parallel Desk	Same advantages as hollow square with better grouping of pupils	Supply table and sinks may be a long distance from some of rows Artificial arrangement which does not approximate home conditions

In providing utensils for the foods laboratory the list must be carefully checked to eliminate nonessentials. Durability, use, attractiveness, cost, and size will need to be considered. The artificial custom of using utensils of toy proportions is being replaced by the use of those of normal family size.

Furnishings as stoves and table tops merit discussion as to relative values, but space does not permit. Where cooking is done, an opportunity should be given to the students to do this on real stoves. There is no table top that meets all the requirements of durability, low cost, and attractiveness. An exhaustive study of the merits of these is given

in several of the newer bulletins on equipment.[18] Housekeeping conveniences, as closets, storage space, supply tables, lockers, and driers have also been adequately treated in these bulletins.[19]

5. *Dining room.* In planning a school dining room it is well to keep in mind the problem of whether a formal dining room will be used often enough to justify the space which it occupies. After considering the matter carefully, many schools have compromised by providing space for this in a portion of the foods laboratory. Others have justified its existence in the home-economics department by utilizing it for students who must eat their noon lunch at school. Where a dining room is provided, good standards in furnishing which are in keeping with the homes of the community should be exemplified.

6. *Arrangement in the clothing laboratory.* Since arrangement in the clothing laboratory is largely dependent upon the type and placement of the tables used, these will need to be given special consideration. The two types in common use are those which are provided with a section of drawers (usually in the center), and those which either do not have any drawers or which have spaces reserved under the table tops for drawers. The latter may be removed from the storage cabinet and inserted in the table as needed. Each has its good points, those of the table without drawers slightly outweighing those of the other type from the standpoint of convenience.

It is seldom that the tables in the clothing laboratory accommodate more than four girls, while in many of the best laboratories only two girls are accommodated at a

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[18] "Plant and Equipment for Vocational Classes in Home Economics," Bulletin No. 124, Home Economics Series, No. 10 (Federal Board for Vocational Education), pp. 61, 62.

[19] *Ibid.* See also, Jessie W. Harris, "Equipment for Teaching Home Making in Texas High Schools," Bulletin 140 (State Board for Vocational Education, Austin, Texas).

table. Tables of the latter type are usually provided with an extension drop leaf which may be utilized for cutting purposes and thus eliminate separate cutting tables in the laboratory. The parallel arrangement of tables is most frequently used, although in some schools the block arrangement of having the sewing machine at the end of each table is growing in favor. The greatest drawback to this arrangement is that some blocks will be inadequately lighted for work at the machine. For this reason the majority of schools place the machines next to the window where the light is best.

Provision for fitting garments will need to be made in arranging the clothing laboratory. Adequate storage and locker space also merits consideration. There are very satisfactory arrangements which may be planned and these as well as other furnishings such as ironing boards and mirrors are discussed at length in bulletins already cited.

Textbooks. Good textbooks and reference books are an important factor in successful home-economics teaching and testing. Unlike books used in certain other subjects, the textbook in this field may also be an agent for establishing better coöperation between the home and the school, since mothers are interested in discussing its contents with their daughters and watching the development of home projects.

1. *Selection of a textbook.* The general standards which may be used in selecting a textbook in home economics differ little from those set up for other subjects. There is little agreement among home-economics leaders as to what the texts should contain. One of the chief reasons for this is that it is difficult to formulate specific qualifications that will meet all teaching situations in home economics. This difficulty is due to the fact that the objectives, the subject matter, and needs vary so widely in different schools.

Books selected for the junior high school will need to be rather specific in the methods of treating subject matter. Numerous illustrations, which bring out vividly the points to be emphasized, will do much to attract the younger girl to the subject matter. Illustrations also which are used to provoke thought and develop judgment are always interesting. For example, pictures showing different methods, both right and wrong, of placing bloomer patterns on material with the query, "What is wrong in this picture?" will be a specific temptation to the girl to solve the problem at hand.[20] Textbooks that employ a psychological approach to subject matter will succeed far better in fixing this in the junior high-school pupil's mind than those that merely represent a compilation of cold facts. The challenge of "What shall the family eat?" or the suggestion of "Let's go marketing" make an immediate appeal to the pupil.[21]

Suggestions for additional problems and for pupil-testing of subject matter add greatly to the usefulness of the textbook. Since the junior high-school age is the time when girls help about the house, any home projects which may be listed will encourage this practice. It is very important that books designed for junior high-school use allow for the treatment of a number of phases of home economics, that they set up good standards of work to be followed, and that they develop an interest in the activities of the home.[22]

Textbooks used in the senior high school need not be so general in the subject matter included, since there is a growing tendency to treat this in a more intensive manner. For this reason the book should furnish adequate supple-

[20] Mabel B. Trilling and Florence Williams, *A Girl's Problem in Home Economics* (J. B. Lippincott Co., 1926), p. 105.

[21] J. W. Harris and E. V. Lacey, *Everyday Foods* (Houghton Mifflin Co., 1927), pp. 216-222.

[22] Brown and Haley, *op. cit.*, p. 335.

mentary lists of books relevant to the subjects studied. Although illustrations are still valuable, these may largely take the form of graphs, tables, and charts rather than those which are merely pictorial in nature. Recipes, formulas, score cards, or tables to be used frequently for reference are well placed in the appendix, rather than combined with the general content. The subject matter in the senior high-school textbook should be much broader than mere manipulative processes. It should be of the type to develop judgment and should include a broad treatment of the economic and social phases of home economics.

2. *Use of the textbook.* Many departments of home economics are inadequately supplied with proper text and reference books. This deficiency is frequently due to the negligence of the teacher in asking for them, rather than to any disposition on the part of the principal not to supply them. Since, in most schools, a certain allotment is granted each year for the purchase of books, it behooves the teacher to see that she receives her proportionate share.

No one textbook can be recommended to meet universal requirements. This is clearly exemplified in the teaching of nutrition courses to high-school students at the present time. There seems to be no one textbook which meets the requirements for such a course, so that it is necessary for the pupils to have access to a number of books to secure the desired material. The use of but one book has a tendency to develop a closed mind with a narrow outlook upon the subject The trend in contract and project teaching of using many books need not interfere with the selection of a textbook, since it is quite possible to choose from the growing list of good books one that is basic in nature and that, if supplemented by proper reference material, will meet the needs of various units of work.

The textbook, to be of greatest benefit, should be "the servant and not the master." Where it is used as a sole

source of informational material, where subject matter is followed blindly as to sequence, and where it is used in place of a course of study, it may prove a detriment to teaching rather than a valuable aid.

Evaluating the results of teaching. The type of testing in home economics as well as the manner of conducting it will be determined to a greater or less degree by the policies of the school system. In large city schools the tests carried on may form a part of a general testing program, with the objective in view of making these standardized in nature.[23] In smaller cities and towns it is the usual practice to follow the general policy set forth by the superintendent or principal in regard to testing. It is customary for them to state how often tests should be given, and there may also be some agreement as to the type to be employed. Frequently the home-economics teacher is given considerable choice in the type of test to be used.

1. *Types of tests.* The types of testing most frequently employed in home economics are the essay or written examination, practical examinations, objective tests (both formal and informal), pupil self-help scales, and score cards of various kinds.

a. Essay type. The essay type was one of the earliest methods of testing in home economics. The traditional method of giving this is to require the pupil to answer a certain number of questions, usually ten in number, which the teacher thinks cover the high points in the subject studied. It is not without its good points since by this method the teacher secures certain opinions and points of view which it is quite impossible to receive in other forms of testing. Perhaps the greatest drawback to this type of testing is the method of correction, since, no matter how fair the teacher may be, the checking will be subjective

[23] *Cf.* standardized tests developed by home economics department of Baltimore, Maryland, public schools (as yet unpublished).

rather than objective. Another serious drawback is that, relatively speaking, only a very limited amount of material can be covered.

b. Practical type. The practical examination proves valuable when the course carries a large proportion of laboratory work. Many pupils find it relatively easy to express theoretical ideas on paper but find it difficult to work them out in practice. For example, a pupil may talk fluently concerning the principles of harmony and balance in relation to house decoration but find difficult the rearrangement of furniture found in any given room so that these principles are consistently observed.

It is an excellent plan to utilize this form of testing occasionally, as it gives the teacher an idea of the extent to which she has helped to develop certain abilities in the pupil. The "motor-minded" pupil particularly will profit by this type of test. The chief disadvantages of employing this method are the time consumed by the pupil and the difficulty in checking results impartially on the part of the teacher.

c. Objective type (formal). Little was done in home economics toward testing by more exact methods until many years after this kind of work was well started in other fields. This was probably due to the late entrance of home economics into the family of studies and also to the need for adjusting it to many families, localities, and incomes, a fact which makes standardization difficult.[24]

Many of the formal tests available in printed form can be profitably used by the teacher. The bibliography at the end of the chapter catalogues the best of these home-economics tests. One of their chief values is that they serve as diagnostic devices for the teacher, making her self-critical of her work and revealing where her teaching

[24] C. M. Brown, "What Educational Tests Can Do for Home Economics," *Journal of Home Economics*, April, 1924.

is weak. For example, an information test on foods might be given to a class just entering the ninth grade, this class containing pupils who have varying backgrounds and who are the products of different types of schools. The same test might be given in the middle of the year and again at the close of the school year. The progress that the pupils show will be one way of measuring what has been taught. Another advantage of this type of test is that it shows the beginning teacher what may reasonably be expected of pupils in particular grades. Probably their greatest disadvantage is that, since home-economics subject matter is not standardized, it is difficult to give many of the tests in their entirety to any one group of students, unless teaching is patterned definitely after the material in them.

d. Objective tests (informal). The informal objective test is constructed by the teacher and covers a definite unit of work which has been completed by the class. Forms which may be used for constructing it are the recall type of which the completion is the best example and the recognition type, of which the false-true, single-choice, plural-choice, and matching are typical examples. Directions for formulating and correcting these tests, as well as the relative values of each of them, may be found in any good book on tests and measurements.[25] It is probably not advisable to use these tests to the exclusion of the other types mentioned. When employing them, it is advisable, however, to vary the type used, since pupils who are used to one kind exclusively, as false-true, find it difficult to adjust to other kinds, as matching or completion.

The use of this form of test does not mean any less work for the teacher than the other types. If they are to be used more than once, they will need to be revised frequently as

[25] *Cf.* D. G. Paterson, *The Preparation and Use of New Type Examinations* (World Book Co., 1925), and G. M. Ruch, *The Improvement of the Written Examination* (Scott, Foresman & Co., 1925).

occasion demands and should never be considered as perfect or final. This revision will be done on the basis of the number of questions the students are able to answer in the allotted time, the mistakes made in former tests, and the advances in subject matter which make changes imperative.

Two of the chief advantages of objective tests are that they eliminate the personal or subjective element in marking, and they enable more subject matter to be covered in a given time. The informal objective test may have an advantage over the formal in certain cases, since the subject matter is built to fit the student. Where the papers are returned to the student, they may further serve as material for review.

Like the formal test, it serves as a diagnostic device for both teacher and pupil. The teacher may have in mind certain points of fundamental importance which she believes she has emphasized unmistakably, but she may be surprised at the fantastic form they have taken in the minds of certain pupils as revealed by the concrete questions of a test. A teacher who believes she has presented clearly to her beginning class in sewing the method of threading the sewing machine is frequently amazed to find that a number of the pupils are unable to sketch in the thread, numbering each place in order, on the simple drawings presented to them. Obviously the task which awaits her after correcting these drawings is to point out to each pupil her individual mistakes and to see that these are corrected.

2. *Scales and score cards.* Scales used in home-economics classes may be of the more formal, printed type or may be prepared by the class while working on a common problem. There are several printed scales available that may be used advantageously in clothing classes.

When the class works out a scale together, it is necessary

to allow time at the end of the period to judge the products. If the class is scoring sugar cookies, these may first be sorted into groups: Class A being those that would be saleable, uniform in size, thickness, brownness, and quality; Class C being the ones which would have to be discarded, such as the burned ones; and Class B containing those which would be edible, but not first-class, because of unevenness of size or shape or browning. The pupils themselves can make such a classification easily; they can also explain exactly why certain ones failed to meet the qualifications of Class A and decide how they can be improved.

A similar plan of class judgment can be used where any technical problem is involved. The first French seams made by a class may be sorted in a similar manner and the reasons for including or excluding each one in the different classes thoroughly discussed. These may be compared with those made in another section and a fair-minded conclusion reached as to which section has, on the whole, done the better work. Such a conclusion is not only plainly evident to those who have made the seams, but it is recognized as a judgment of their peers, quite unprejudiced and inevitable. The teacher who judges their work by comparing it with the model seam which she made in her teacher-training course, at the cost of more time and effort than she would care to divulge, can expect no such wholehearted response to criticism.

Similar methods may be used in developing score cards in class. Pupils will frequently receive more benefit from scoring, by preparing a score card themselves for the product to be judged. These score cards may be discussed and evaluated in class and a final score card produced which represents the consensus of the entire group. Preparing a score card for each thing to be judged would be far from practical, since this process is too time-consuming. There are many excellent score cards available in the vari-

ous fields of home economics which have been prepared by experts.

Crucial points in home-economics teaching. Because of problems of economic and social adjustment that are revolutionizing modern home life and because of improved educational policies and methods, home-economics teaching has recently been undergoing a rapid change. When teaching began in this field it was based upon the sciences, chemistry, physics, bacteriology, and physiology, in an effort to meet and improve home conditions of the day. It is a significant fact that eastern colleges, which have but recently added work of this nature to their curricula are approaching the subject from the standpoint of economics, sociology, and psychology. This approach is due to a belief that the paramount problems of home-making to-day are fundamentally those that involve human relationships and characteristics, rather than the natural sciences.

The task, then, that confronts the home-economics teacher is no simple one. Changed points of view, ever-changing subject matter, and newer methods of teaching make constant demands which only the well-trained and progressive teacher will be able to meet. Home economics since its beginning has not only been fortunate in its leaders but in its teachers as well. The suggestions that follow are intended in no way to be disparaging to these teachers but to keep up the high standards that have already been set.

1. *Adequate organization important.* One of the important considerations of good home-economics teaching is that the subject matter be carefully planned. A good course of study should serve as an educational Baedeker for the teachers and the pupil, both of whom should know the plan of work and problems ahead. The class that comes into the laboratory and remarks, "What are we going to cook to-day?" reveals the fact that the pupils are unfamiliar

with the organization of the course and the relation which the individual lesson bears to the unit. This further reveals the fact that the teacher alone has established the objectives. The teacher who takes the pupils into her confidence on these questions and invites suggestions from the class will obtain much more interesting results than the one who keeps the pupils in ignorance of what is to be accomplished. In order to evaluate properly the teaching that is being done, the principal should be as familiar as the pupils with these objectives and should be constantly on the alert to see whether they are being realized.

Waste of time in laboratory classes, especially those in foods, can be traced directly to the failure of the teacher to provide enough material to fill in the period. As a result the class may sit idly around, "waiting for the chop to broil." Such management leads not only to bad habits of work but also to positive idleness. As the single laboratory period calls for better organization by the teacher and a greater appreciation of time by the pupil, it can do much to obviate this difficulty. But whatever the length of the period, every moment of it will be filled with eager, questioning activity if the pupils are consciously working toward an objective that they understand and which they believe is worth achieving.

2. *Value of problem-solving methods.* One of the great opportunities open to the home-economics teacher, as has been suggested, is that of presenting subject matter on the problem-solving basis. Home economics itself is rich in problems, but the teacher all too frequently fails to recognize them and presents a "ready-made" lesson to the pupils with no provision for thought or organization on their part. The laboratory lesson in foods, with the recipe divided into smaller parts and the directions for preparation written neatly on the board or dictated to the class, leaves little stimulus for thought. Likewise the clothing lesson in

which the pupil is told exactly how to place the commercial pattern on the material, without reasoning out the *why* and the *wherefore,* gives little help when a different problem of the same type arises again. Many home-economics classes conform as nearly as possible to the methods and are making an honest attempt to select from the wide range of subject matter that which is worthy of effort on the part of their pupils in solving problems.

3. *Use of situations from real life.* In spite of the efforts which have been made to have the work in home-economics classes conform as nearly as possible with the methods and conditions of the home, there is still to be found much artificiality in the teaching of this subject. Recipes are divided by the teacher into eighths and twelfths, samplers in sewing are still made in some classes, and home furnishing is frequently taught by having pupils make a small cardboard house and paste together the paper furniture for it. Miniature work of this kind in no way approximates conditions in real life.

Up-to-date food courses are planned and taught on the meal basis. This means that the larger recipe will be used instead of a small portion of it. The difficulty immediately presented by this arrangement is the greater expense involved for materials which may, however, be met in a variety of ways. Ingenious teachers have met this problem by selling food prepared over and above that needed for class use, or by having pupils bring materials from home which are cooked in the laboratory and taken home for family use. Often a meal will be the culmination of a week's lessons so that its cost may legitimately be five times the usual daily allowance. Particularly in beginning classes, one or two articles of food will be all that the class can prepare adequately in the time allotted; if the class prepares the main dish for the meal, each pupil can bring other food from her home to supplement this and

all may have an adequate luncheon, if desired, at school.

The making of samplers involving numerous stitches and processes, for the sake of exhibition or notebook work only, is seldom if ever justifiable. Difficult processes or stitches which are to be applied immediately on garments may, however, be first practiced on small scraps of material if the teacher or the pupil thinks that such practice is necessary.

The cardboard house can never reproduce the home-furnishing problems that are met in a real home. The major portion of the time must necessarily be spent in the construction of the house and furniture, with the result that the furnishing problem becomes quite secondary. Visits to real homes and to furniture and department stores and the study of good magazine illustrations are far better means of teaching subject matter of this kind. The principal may be of help to the teacher in this connection since he usually has a better knowledge of the opportunities offered by the community for these purposes.

4. *Proper assignments necessary for orderly work.* In many home-economics classes to-day there is a woeful lack of provision for study by pupils. This lack may be due to the time-honored practice of allowing a double period for the work, which is more than is ordinarily granted for other classes. The teacher, as a result, has been led to feel that, because of the greater time allotted, no further demands should be made upon the time of the pupil. Many principals have fostered this idea. Where this condition exists, the status of home economics as a school subject has usually been lowered.

In all schools teaching home economics ample provision should be made for its study, and adequate assignments should be made of the daily type or contract type. Such provision is relatively easy when the class meets for a single period, but when the double period is involved

adjustments will have to be made. Certain principals have met this situation by arranging the work so that one of the two periods is devoted to directed classroom study. For this work, textbooks are of course useful but quite inadequate unless they are supplemented by ample reference material in books and periodicals.

5. *Activities chosen on the basis of their educational value.* Many home-economics teachers, in an effort to fulfill certain obligations which the department has been asked to render to the school, make the mistake of allowing their classes to be exploited for various purposes. Catering for all sorts of functions, within and without the school, performing all the school laundry work, preparing the school lunch for large numbers of students, and filling sizable orders in the community for canned or baked goods are examples of a few ways in which this exploitation takes place. All the above activities may have a rightful place in the various courses, if work is carried on in moderation and at the discretion of the teacher, so that it is not pursued to the point where it is no longer educational. This point is reached when the pupils cease to learn anything new, and work is merely repetition. No department should exist for the purpose of taking the place of a catering establishment, commercial laundry, cafeteria, or bakery, or permit classroom work to deteriorate into drudgery. Many teachers have overcome the difficulties mentioned by submitting to the principal the dates and hours when certain classes will be prepared and available for these activities, working out plans with him for accepting the opportunities that offer experience of real value, and obtaining his approval and coöperation in declining commissions which do not promote the work in hand.

6. *High standards of cleanliness of great importance.* Proper standards of cleanliness and order should be exemplified in the home-economics department above all others

in the school. The public is quick to notice lack of cleanliness at first glance on entering the laboratories of the department.

First of all, the teacher herself should typify in her personal appearance the cleanliness that is so important in handling foods and the good taste in dress which she is endeavoring to teach to her pupils. The rooms should also present an orderly appearance in accordance with the standard upheld by the department. Dirty towels uncared for, food in torn and rumpled bags on the supply table, books and handkerchiefs on the work tables, illustrative material exposed to the dust long after the class has finished using it, disorderly cupboard shelves, and torn and burned covers left on the ironing boards are examples of neglected details which deserve criticism by the supervising principal. He should coöperate with the teacher by providing adequate janitor and laundry service so that the housekeeping duties of the department can be satisfactorily performed without imposing drudgery upon either the pupils or the teacher.

7. *Teacher's enthusiasm a vital factor in the classroom.* Good teaching in home economics, as in other subjects, demands that the teacher be alert and vigilant every minute. There are teachers who are so passive and inert that the influence of their real personality is never felt in the classroom. In this group is the teacher who sits at her desk during the major part of the period, often working on reports or correcting papers and waiting for her pupils to bring problems to her, rather than circulating about the group and finding out where she can be of the most assistance. This teacher inertia and indifference wastes pupils' time for they must stand in a long waiting line about her before receiving help. It also induces mistakes and discouragement on the part of the student, particularly in clothing classes, where ripping must be done needlessly

because the teacher has failed to correct an error in time.

The progressive and conscientious teacher will feel that she has a definite contribution to make to each class period and that she should give something more to the pupils than they could receive merely by reading a book on the subject or working out the problem alone. The teacher who succeeds in inspiring her pupils to do their best work, and incidentally promotes her own advancement, is the one who is sincerely interested in the individual girls and their peculiar needs and is so enthusiastic over the potential power of home economics to make their lives fuller and happier that she throws her whole personality into her teaching.

The principal's opportunity. In spite of the fact that the principal may not have been trained in the subject matter of home economics, it is quite possible for him to be an effective supervisor of this subject. He is trained in the fundamental principles of educational methods, and experience will enable him to apply them to home economics as well as to other subjects. Whether or not the principal knows how to cook or cut out a garment is quite beside the point; the teacher under his supervision is relying upon him for understanding, tolerance, and for helpful and kindly professional advice. The principal who shifts responsibility in these matters on the ground that he knows little or nothing about the field of home economics not only misses the opportunity of extending his horizon in one of the most interesting directions, but also deprives the teacher of counsel and inspiration which she finds necessary for good teaching.

Functions of the supervisor in home economics. The task of supervision is not one of general oversight, but it carries also definite responsibilities which are peculiar to the subject. One of the first considerations should be an understanding of the home-economics program in the

school. The principal should be familiar with its objectives and see how they differ in the junior and senior high school. He should also be able to differentiate the more specific objectives from those of other subjects.

The principal will need to be familiar with the general content of home economics. It is a regrettable fact that many principals still designate the subject matter of this field as mere cooking and sewing. He should also have a definite conception of the organization of content and, if unfamiliar with it, will need to consult the teacher and other reliable sources on the subject. A number of books and periodicals have been listed in the bibliography with this thought in mind.

It is not too much to expect that methods of building excellent courses of study be understood by the principal, since these methods differ little in home economics from methods employed in other fields. It would be greatly to his advantage also to familiarize himself with outstanding courses of study worked out in other cities or states.

The second important function of the principal is that of supplying adequate provisions for home-economics learning. Scheduling the subject at desirable hours in the school program, knowing numbers that can adequately be accommodated for best classroom instruction, and planning methods of financing and arranging the teaching load for the best interests of the teacher are all legitimate duties of the principal. In addition, the principal should have a general knowledge of the supplies needed for home-economics instruction and a familiarity with the textbooks and reference books in use.

The third, and probably the most important, function of the principal as supervisor is that of evaluating and improving home-economics instruction. The principal will need to visit home economics classes frequently enough and for long enough periods to discover whether or not

effective methods of teaching are being employed. If he finds ineffective methods, definite plans should be made on his part to improve them. One of the best methods by which this may be done is to meet the teacher frequently in conference, where both teacher and principal discuss difficulties, freely and frankly, as they see them. Working together with a common knowledge of weak points and a very definite plan for improvement of these ought to do much to overcome many common errors which would be difficult for the teacher to overcome alone.

The home-economics teacher has a very close contact with her pupils, discussing as she does the intimate personal matters of food, clothing, and family relationships. She realizes the great possibility for influence that this contact places in her hands and earnestly desires to use it wisely. The principal can easily make available to her certain relevant information which he has regarding the pupils, such as previous school records, physical conditions of his students as reported from examinations of school doctors and nurses, psychological ratings as deduced from records of mental tests and examinations, and their present home environment. The richer the background of information concerning the pupils, the more the teacher will be able to do for them. The principal can further her influence greatly by helping her to interpret these records and by talking over with her the most difficult cases, thus giving her the benefit of his wider experience and more mature judgment.

The improvement of the home-economics teacher in service is a responsibility which devolves directly upon the principal as supervisor. If he has the help of a state or even a city supervisor, he is the one who is in immediate daily contact with the situation and must coördinate the work of this teacher with the general growth and improvement of the whole school. The principal should encourage

the home-economics teacher both by advice and by enabling her to afford to obtain further training, to carry on certain types of experimental work which may prove valuable in her field, and to attend and participate in professional meetings, both local and national, which may prove helpful and inspirational to her. It is also necessary that the teacher keep up with the subject matter in her field by reading articles published in professional publications as the *Journal of Home Economics* and reports in scientific journals of various kinds. The subject matter of home economics is growing and changing so rapidly that the teacher must keep constantly in touch with it or find herself behind the times.

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CHAPTER X

THE SUPERVISION OF INDUSTRIAL SUBJECTS

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Changed emphasis in industrial courses. Reference is made in Chapter I to needed reorganization which has taken place in secondary education during the past few years. Perhaps in no other division of secondary education have these changes been more marked than in the reconstruction of purposes, content, and methods for the industrial subjects intended either as a means of general education or as a preparation for entrance into industrial pursuits.[1] The social and economic needs of to-day call for instruction and guidance which aim (1) to challenge and develop the pupil's present interests, aptitudes, and capacities, and (2) to train and educate him for the many-sided demands which the future is expected to make upon him.

These needs make it necessary for each school system to provide suitable courses for different groups of pupils—for those who will continue their school work indefinitely; for those who intend to go to college; and for those who must cut their education short to earn a living or for other reasons. The rapid growth of intermediate and junior high schools has been followed by a development of specialized curricula in senior high and vocational schools which represents a serious attempt to assist all

[1] F. G. Bonser, "New Types of Industrial Work in Schools," *Teachers College Record*, Vol. 16, May 1, 1915.

pupils, regardless of their social status or possible life work. The growing tendency to respect individual differences by providing specialized courses, calls for teachers of varied experience, knowledge, and skill in order to establish in the pupil, those habits, attitudes, and appreciations that are found to contribute most to the daily conduct of worthy citizens, intelligent consumers, and efficient producers.

In the past, such terms as "manual training," "sloyd," and "shop crafts" have been used to designate courses which too often emphasized operations or processes without respect to the specific needs and interests of the pupils. Such courses have varied from "iron-clad" series of technically and logically arranged exercises, which made small, if any, allowance for individual expression, to classes where the instructors set the task and chose the models at first but later allowed the pupils a very limited choice. For example, in some courses the pupils were required to construct a number of joints of wood (a few of which are no longer in common use) without knowing the connection between the doing of the work and the actual uses which might be made of such joints. Then, again, other courses required a definite number of models, such as key racks, toothbrush racks, tie racks, coat hangers, bookracks, sleeve boards, and the like, which were made by all pupils regardless of whether or not there was any particular interest in or need for these articles.

Even the best of these courses, which encouraged the pupils to make worth-while products, completely failed to allow them opportunity for thinking out and making plans to meet the difficulties involved in their construction work. The pupils were often required to do their work in a certain prescribed way, and the chief emphasis was placed upon the following of directions, while little allowance was made for initiative. Some of the instructors were

tempted to do much of the pupils' work for them since the success of their teaching was frequently judged by the quantity and quality of work which was displayed at the annual school exhibition. The least successful of these courses were, of course, those which required all pupils to make formal exercises or models. These usually developed skill in tool processes, but offered little else of lasting value.

Improvements in industrial subjects. In general industrial-arts courses[2] and vocational-industrial classes,[3] recently investigated, it was observed that the quality of instruction and supervision was usually in keeping with the extent to which the respective courses had been based upon clear-cut needs and objectives. Corresponding improvements were noted in the methods of inaugurating, organizing, and developing shop and related activities, with special emphasis upon the problems of assisting individuals to learn most purposively, effectively, and economically. The most encouraging of these tendencies to improve existing instructional provisions may be summarized as follows:

1. Increased emphasis upon determining well-defined needs or objectives for offering the various units in question
2. Practical analysis for selecting the particular skills and knowledge which might well be acquired in order to meet these needs and objectives
3. Greater interest in evaluating these teachable elements for the purpose of weighing values as to the general order and the time when each unit might be most effectively taught
4. More care in planning each unit in terms of the specific needs and standards for the class, group, and individual, and in relation to the other units of instruction

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[2] A. H. Edgerton, *Industrial Arts and Prevocational Education in Junior High Schools* (Bruce Publishing Co., 1922).

[3] Edgerton, "Outstanding Tendencies in Industrial and Part-Time Education Programs in 143 Cities," Ch. i of Section II, *Twenty-third Yearbook* of the National Society for the Study of Education (Public School Publishing Co., 1924), Part II, pp. 201-226.

5. Better procedure for choosing the most suitable methods and devices for presenting the selected units in keeping with the above considerations

6. Improved attitude toward checking up and testing the individual students to ascertain how fully the instruction has succeeded in realizing the subjective and objective standards.

Unfortunately, the terminology for the different industrial subjects lacks general acceptance and universal adoption; consequently, confusion has resulted because of the different designations used in various school systems. Those persons who are charged with the responsibility for developing the separate courses for general educational purposes and for certain specific values in wage-earning preparation are, however, well aware that the new developments in the seventh, eighth, and ninth grades are gradually forcing the discontinuance of similar objectives and activities on the senior high-school level, where accepted junior high schools exist. In answer to this challenge, several high schools aside from separate vocational and technical schools, have already arranged specific plans of part-time outside coöperation through vocational departments for pupils who expect to enter industry rather than to go to college. This tendency to utilize the laboratories of outside establishments indicates a recognition that school preparation for industrial occupations should be supplemented by definite instruction on the job, if the best results are to be obtained.

Although industrial arts, manual arts, or the so-called manual training courses, and strictly vocational classes aim at entirely different objectives, nevertheless these courses are closely related as far as a complete program for a democratic education is concerned. In fact, the success of vocational education partially depends upon the previous understanding, insight, and general acquaintance which the pupils have had with the actual conditions and

relationships in the industrial and commercial world. Of unquestioned importance are also the additional facts that the future wage-earner is a consumer as well as a producer, and that a program for public education which neglects to help individuals to consume intelligently and utilize the hours of leisure wisely is decidedly undemocratic. Furthermore, it is being realized that skills, attitudes, and appreciations are acquired most advantageously when opportunity is provided for participation in appropriate thought-provoking situations which give due consideration to desirable initiative and self-adjustment in the trainees' chosen vocations.

Objectives differ for industrial instruction. Experience has taught us that the instruction for pupils who are preparing for direct entrance into industrial pursuits or skilled trades, or are returning for trade extension work, should help them to acquire a high degree of manipulative skill or add to their technical efficiency. Recent reports from intermediate schools and junior high schools likewise show a generally accepted belief that adolescent pupils might well gain some knowledge of a reasonably wide range of typical industrial activities by having first-hand information and experience in important processes of manufacture, transportation, and commerce as a foundation for choosing and succeeding in their life work. In the former case, the success of the individual depends largely upon skill and knowledge as these relate to quality and quantity production in some form. In the latter case, the "self-finding" period demands appreciative insight into a sufficient number and variety of representative experiences to help pupils develop varying ability for understanding and managing industrial activities.

Honest differences of opinion as to claim and interpretation have frequently existed among persons who are concerned with the important relationships and functions

of industrial subjects. Such debatable issues have been apparent to close observers for a number of years, and especially since February, 1917, when certain formulated standards as to general procedure, time, equipment, and qualifications of teachers were established through the enactment of the Smith-Hughes vocational education law. By means of this law a part of the expenses incurred for specific trade and industrial instruction may be reimbursed from federal funds through the state departments by direction of the Federal Board for Vocational Education. Perhaps much of the misapprehension as to objectives, means, and methods may be attributed to the disinclination on the part of certain school representatives to accept entirely the philosophy of educational leaders and specialists who would sharply differentiate all problems of vocational education from their alleged relationships with other divisions of education.

Certain school officials insist that serious conflicts still exist between general education and the controlling objectives and policies for vocational education. In a few cases boards of education have been found to show little concern with the immediate problems of preparing more efficient workers in specific occupations. On the other hand, a few enthusiasts report that they regard the satisfactory solution of problems in vocational education as an absolute and independent preparation for complete living. But, with few exceptions, the representatives of the city systems investigated by the writer in person, by questionnaire and by letter, do not indulge in either of these extreme points of view. These school officials are convinced that their opportunities and duties rest in the problem of helping boys and girls to meet new and changing demands for effective service as members of families and of civic and vocational groups. They state, with varying degrees of emphasis, that their respective school systems

are seriously endeavoring to use all available resources in preparing children to make proper choices and adjustments, and to help determine their own future careers. As might be expected, however, there is a decided range of opinion as to how these general objectives may be accomplished most satisfactorily.

Supervisory assistance for teachers of industrial subjects. Supervisory assistance for teachers of industrial subjects necessarily varies widely in different communities and schools. Unfortunately, supervision in many school systems is merely nominal as far as improvement of teaching is concerned. It is encouraging that increasing numbers of teachers report assistance from their supervisors and principals through conferences, observations, visits, meetings, ratings, reports, and records. In a survey of the duties and responsibilities of supervisory officers, both for industrial or manual arts [4] and vocational education,[5] Land reports the following duties which are being performed with varying results:

NOTE: The order of the items given below was determined by rating the composite judgments of over one hundred directors and supervisors of industrial subjects.

I. EXECUTIVE DUTIES

1. Conferences with teachers
2. Observation and inspection
3. Visitation
4. Teachers' meetings
5. Illustrative teaching

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[4] S. Lewis Land, "The Duties and Responsibilities of the Manual Arts Supervisor," *Industrial Arts Magazine*, Vol. 12, October, 1923, pp. 373-376.

[5] Land, "The Duties, Qualifications, and Responsibilities of Directors of Vocational Education," *Industrial Arts Magazine*, Vol. 14, October and December, 1925, pp. 380-383 and 450-453; Vol. 15, February, 1926, pp. 51-53.

6. Guidance and counseling
7. Rating teachers
8. Rating own supervision
9. Teachers' records
10. Reports
11. Purchasing and distribution
12. Records
13. Inventories

II. Organization Duties

1. Organizing course of study
2. Curriculum building and organizing new courses
3. Conducting surveys
4. Organizing materials for bulletins, pamphlets, and manuals
5. Organization of office
6. Organizing system of budgets
7. Installing new equipment

III. Professional Relationships

1. Coöperation with superintendent, principals, special teachers, regular teachers, pupils, patrons, and board of education
2. Coöperation with manufacturing and industrial organizations
3. Coöperation with business and social organizations
4. Self-improvement
5. Talks before civic clubs and other organizations
6. Church activities

In a more recent investigation of the supervisory activities engaged in by 134 city leaders of industrial and allied instruction,[6] Smith found the following percentages:

100%

The officials are not all charged with supervisory responsibilities. It is, therefore, accurate to omit a 100% list of activities.

[6] Homer J. Smith, *Industrial Education* (Century Co., 1928), pp. 138-139.

90% to 100%

Conduct teachers' meetings
Rate teacher efficiency in some way
Observe teachers in classrooms
Confer with individual teachers
Engage in research and experiment

75% to 90%
(In addition to the 90%-100% list)

Work with committees of teachers
Sponsor local professional organizations
Plan formal improvement training for individuals
Arrange schedule for intervisitation
Plan formal teacher training courses to be conducted in city, usually in connection with a recognized institution (81%)
Guide teachers through issuance of mimeographed or printed instructions, syllabi, course manuals, etc.

50% to 75%
(In addition to the 90%-100% list)

Assist in preparation of individual assignment materials and job sheets
See that salary schedule encourages professional improvement
Grant leaves of absence for training
Rate teachers by the use of a definite scale

25% to 50%
(In addition to the 90%-100% list)

Have teachers rate themselves on an objective basis (25%)
Supply special bibliographies
Do illustrative teaching in rooms or at meetings
Maintain teachers' library
Use an observation outline in visitation
Have a department or school selected for experimentation
Grant a bonus for summer session or equivalent training
Set up definite standards of attainment by grades, in each subject

10% to 25%
(In addition to the 90%-100% list)

Hold coördination meetings with principals and other supervisors

Miscellaneous, Less than 10%
(In addition to the 90%-100% list)

Hold occasional teacher-training conferences
Conduct training classes for own teachers, under auspices of state board or some recognized training institution
Visit schools or shops with teachers
Advise professional reading for teachers
Furnish information about summer training courses
Conduct practical tests for prospective teachers
Help in devising tests and examinations for pupils

It is recognized that these duties are being performed with varying results by the part-time or full-time supervisor or director of the industrial subjects in the larger city school systems. The principals, who are made directly responsible for the successful administration of this work in their respective school organizations, also have an obligation for the improvement of industrial instruction; even in cases where supervisory assistance has been provided by the central administrative office. In fact, the principal can not avoid forming some judgments as to the quality of instruction, and frequently his supervisory assistance through frequent observations and conferences will prove of considerable value to the teachers in improving their objectives and methods. In order to make constructive suggestions the principal should have in mind questions similar to the following which will lead to a discussion of the objectivity of the subject.

1. Is the emphasis throughout the problem or project placed primarily upon the specific needs of the learner rather than upon needed production work?

2. Does the unit of work properly typify the operations and processes in the division of industry which it represents?
3. Does it also permit the learner to acquire sufficient understanding of the technical relationships of the occupational pursuit from which it was selected?
4. Do the various types of construction work and related technical knowledge represented range from those which can be done well by pupils having about average ability to those requiring the highest kind of specialized ability?
5. Are the immediate values in the different kinds of construction work and in the related technical studies always obvious to the pupils?
6. Can the time and effort required for completing a project be justified by the quality and quantity of the experience and knowledge which are realized?
7. Does the project make some allowance for the development of originality and initiative both in the planning and execution of the work?
8. Is due consideration given to the kinds and qualities of the materials used, to the appropriate design and methods of construction, to the processes of manufacture, and to the shop applications of science, mathematics, and mechanics?

The principal can also be aided in judging the effectiveness of the shop teaching by remaining in the room or shop long enough to note several or all of the following items:

1. Teacher's presentation of the lesson including use of appropriate general as well as shop teaching methods.
2. Definiteness of objective or aim as indicated by the teacher's apparent preparation for the lesson in having general plans and necessary materials ready for use.
3. Suitability of the lesson content to the teacher's objectives, to the pupils' needs, to the whole course, and to its proper sequence of difficulty.
4. Reaction of students as evidenced by their response to and attitude toward the teacher, interest in the work, recitation ability, and industry.

5. Teacher's ability to lead as shown by his handling of discipline and development of individual initiative.
6. Teacher's occupational competency and experience as reflected in his shop teaching methods, achievements of students in finished products, projects, written work, drawings, etc.
7. Teacher's attention to economy of time in helping groups and individuals to use it most advantageously.

General aims or objectives of industrial subjects. The aims or objectives of the industrial subjects will be determined largely by the purposes of the school organization in which the instruction is offered. In fact it is usually found that the general objectives of the industrial activities do not differ much as a result of either the size or the location of the school.

In order that the industrial courses may be of the greatest possible service to the pupils of any particular school level, they must contribute to each of three general objectives [7] of secondary education as follows:

1. To provide general industrial experiences of common value to all pupils.
2. To offer exploratory industrial activities to aid in revealing interests, aptitudes, and vocational possibilities.
3. To offer opportunity for beginning specialized preparation for entrance into a chosen industrial pursuit.

1. *Provision of general industrial experiences for all pupils.* All required general industrial experiences must possess values in skill and knowledge which are common to all pupils regardless of their present social standing or possible lifework. Such common values are found in the following consumer's or utilizer's aims:

(*a*) To develop "handy man" abilities through repair and construction work for home, shop, and office use

[7] This classification is adapted from an unpublished report which was given before the Wisconsin Teachers Association by Prof. F. G. Bonser of Teachers College, Columbia University.

(*b*) To assist in better choice and use of industrial products and service
(*c*) To gain sympathetic attitudes toward other workers and their work
(*d*) To appreciate economic production by first-hand experience in production work

For example, the concrete objectives for so-called household or home mechanics units of instruction would then be to teach what every boy should know about the use of tools, the selection of materials, the operation and repair of mechanical devices in the home, the principles involved in the several types of mechanisms, etc. Such abilities can be developed by selecting those activities which every householder needs to know and do in the care of a home. A careful analysis of what practically every boy should know and be able to do in order that he may contribute his share to the upkeep of the home, as well as to meet his own needs, would reveal a list of activities for which the school should assume some responsibility. The shop experiences and related study which would give the boy a better understanding of and a greater interest in his daily contacts about the home can be classified somewhat as follows:

(*a*) Miscellaneous repairs about the buildings involving a knowledge of carpentry, masonry, painting, and the selection of materials used in each activity, etc.
(*b*) Uses of electrical appliances including the repair of electrical devices, etc.
(*c*) Upkeep of plumbing fixtures, including a knowledge of water supply and sewerage disposal, etc.

2. *Provision for exploratory industrial activities.* The exploratory activities should represent a sufficient number and variety of worth-while industrial experiences and occupational information studies to test pupils' interests and aptitudes, positively and negatively, in order that worthy

needs and abilities may be revealed and developed. Such exploratory values are noted in the following "self-finding" aims:

(*a*) To try out individual interests, inclinations and abilities for industrial pursuits through typical experiences
(*b*) To make reliable studies of the conditions, demands, and opportunities in related occupations
(*c*) To provide for the individual needs of pupils who would not remain for academic education alone
(*d*) To help pupils more wisely to choose future courses in secondary and higher education

The provision for exploratory experiences can be met partially by the general industrial activities which are of value to all pupils. For example, the home mechanics activities already referred to test, to some extent, pupils' interests and aptitudes in working with the materials, tools, and mechanisms required for the general construction and repair work. All general industrial activities should help to indicate the relative likes and dislikes as well as the abilities and inabilities of the pupils within the limits of the experiences themselves. More intensive units of work should then be provided for testing those pupils who have demonstrated early their special aptitudes and capacities for industrial work.

In either case, investigation of the various related occupations should be made to secure information for aiding the pupil in judging the opportunities and requirements of the industrial pursuits.[8] Such occupational information might well include the following divisions:

[8] A series of bulletins on "Opportunities and Requirements in Local Occupations" has been published in three parts by the Detroit Board of Education: Part I includes department stores, chain grocery stores, commercial art, drafting rooms, toolmaking in large production plants, sheet metal trades, industrial chemistry, power machine operators in textile industry, special salesmanship (automobiles, bonds, stocks, insurance); Part II includes carpentry trades, printing and publishing trades, nursing, social service, stationary engineering, structural engineering, candy making, cigar

1. Nature of work
2. Main advantages and disadvantages
   (*a*) Factors that cause physical or nervous strain
   (*b*) Factors that interest and develop the worker
   (*c*) Factors that restrict mental growth
   (*d*) Factors that are in other respects important as affecting the welfare of the workers (*i.e.*, liability to accident, occupational diseases)
3. Qualifications and training needed
   (*a*) General education
   (*b*) Necessary technical education
   (*c*) Manipulative skill
   (*d*) Other requirements; qualities essential such as accuracy, etc.
4. Possibilities in requirements of occupation
   (*a*) Provisions made for systematic instruction of workers
   (*b*) Necessary or technical knowledge
   (*c*) Manipulative skill
   (*d*) Extent to which occupation can be learned "on the job"
   (*e*) Line of promotion
5. Remuneration
   (*a*) Wages
   (*b*) Special
6. Hours of work
7. Seasonal demands in work
   (*a*) Busy season
   (*b*) Slack season
   (*c*) Fluctuation in employment
8. Are workers organized?
9. Entrance age
10. Time required to learn duties

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making; Part III includes clerical positions, telephone operation, baking industries, wholesale drug industries, auto mechanics, selected building trades, laundry work, photography, dentistry. Also see such other occupational studies as are published by the Vocational Division of the University of California; Milwaukee Vocational School; Vocational Bureaus at Chicago, Cincinnati, and Boston; and Boards of Education at Minneapolis, Hartford, Connecticut, Cleveland, New Orleans and other cities. The November, 1927, issue of the *Vocational Guidance Magazine* contains an exhaustive bibliography of occupational studies.

11. Is supply of labor adequate to meet demand?
12. Is demand for labor increasing or decreasing?
13. What is the source of supply?
14. Common deficiencies of workers

3. *Provision of specialized industrial preparation.* The instruction in advanced industrial work should provide preliminary specialization for those pupils who find it necessary or advisable to enter promising industrial pursuits with a small amount of preparation. Such limited guidance and training possibilities are included under the following aims:

(*a*) To assist in the final selection of a promising industrial career
(*b*) To extend the try-out activity to meet the preparatory-vocational needs of pupils who must leave school with a minimum of preparation
(*c*) To provide supplementary training through a sequence of coördinated shopwork and related school work (mathematics, drawing, science, etc.)
(*d*) To offer greater opportunities for commercial experiences through coöperation with outside productive plants, etc.

By means of intensive exploratory courses and detailed vocational information the pupils, with the help of teachers and parents, should be able to choose the callings which can be entered with the greatest promise of success. The pupils who are interested in these more specialized industrial courses are usually expected and sometimes even required to elect exploratory or try-out courses before entering intensive training. In some cases it may be more satisfactory for all concerned to arrange for a part of the specialized vocational training to be given in a productive shop through a coöperative arrangement, rather than in the school shop.

In any case these more intensive industrial courses are usually intended for two purposes:

(*a*) To meet the need of boys with mechanical ability who might be better able to profit by industrial work than by the regular school program

(*b*) To assist those who for various reasons are to remain only a short time in school and who need short, intensive courses of training before entering industry

Two factors, the nature of the work itself and the economic and social conditions determining the probable length of school attendance of individual pupils, should determine the selection of a suitable sequence of training following the choice of a particular vocation. If the student can continue through the senior high school, the specific vocational training may be made somewhat more limited to allow more time for other phases of education. If early withdrawal is possible, the vocational work should be made more intensive from the outset and might well occupy a large part of the time allotted in the program of electives.

For students served by each of these three objectives, marked increases in interest, ambition, and school attendance, usually follow the inauguration or reorganization of courses of study which seriously attempt to meet the needs and capacities of the learners. Beginning in the seventh grade, the pupils in many cities of over 10,000 population have short exploration periods in a number of unit courses involving interesting and profitable experiences, while they are continuing their studies in other subjects in common with undifferentiated groups of pupils. This plan, including reliable information and systematic counsel, frequently gives pupils, counselors, and teachers a sane basis for the future adjustment of courses and the selection of suitable life work for the pupils. When the parallel study of occupations is based upon factual material, rather than upon assumptions and guesses which naturally are variable, pupils are enabled to enter their life careers with a vision of the vocational opportunities and the employment re-

quirements. Experience in several schools has already demonstrated that this procedure leads pupils to continue through the ninth grade and to enter the senior high or vocational school, in which case they are prepared to choose courses more intelligently and to make progress from the outset.

Desirable content and organization of industrial subjects. 1. *Secondary-school industrial arts.* To-day it is generally agreed that the more important values in junior secondary-school industrial arts can not be attained alone from the mere doing and making of things, where skill in the manipulation of materials, tools, and machines is the chief or only emphasis. The 303 intermediate and junior high schools investigated gave their main reasons for offering industrial activities and related studies as in the table below.

REASONS GIVEN BY 303 INTERMEDIATE AND JUNIOR HIGH SCHOOLS FOR OFFERING INDUSTRIAL ACTIVITIES

Chief Emphasis	*Schools*	
	Number	*Per Cent*
1. Contributing to the general experience, all-round development, and industrial knowledge	118	39
2. Aiding in the intelligent selection of industrial occupations without encouraging early choices	101	33
3. Enriching the school experience of the pupils through concrete situations	78	26
4. Preparing for entrance into industrial vocations	6	2

The psychological and sociological needs and interests of boys from 12 to 15 years of age are mainly in thought-

provoking situations, projects, or problems, involving semi-productive or real production work. The results of several experiments [9] make it obvious that any values which exist in such formal courses may be retained and given greater emphasis where the boys' chief concern is the construction and solution of useful and serviceable projects. As noted, the most valuable of these challenge boys to think out, study, and make definite plans to meet the difficulties involved in their problems. Where this provision is made, boys are usually better prepared to select proper materials, tools, and operations; to make calculations on materials, operations, and cost, when needed; and to carry out the other requirements which the demands of the projects seem to specify.

It is therefore desirable that several materials other than wood be introduced. Even though this work properly represents the divisions of the woodworking industry (carpentry, cabinet making, pattern making, and the like), and is supplemented by studies of occupations through shop excursions and readings, it offers at best opportunity for providing only limited typical experiences and studying present-day industrial pursuits and needs. Consequently, any course which tends mainly to emphasize manipulative skill in the use of woodworking tools cannot, owing to the limitations of the work, be expected to arouse adequate interests and capacities. In addition to skills, the vocational guidance phase of instruction should be considered, although the acquisition of an adequate amount of general industrial knowledge is of equal importance at this time.

The 379 intermediate and junior high schools investigated offered industrial arts instruction with the following frequencies:

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[9] A. H. Edgerton, "Experimental Work in Junior High-School Industrial Arts," *Industrial Arts Magazine*, Vol. 8, July, 1919.

Industrial Activity	Number of Schools
1. Bench woodwork	373
2. Mechanical drawing	357
3. Wood turning	254
4. Electrical work	196
5. Sheet metal	193
6. Printing	178
7. Forging	127
8. Home or household mechanics	126
9. Machine shop	114
10. Auto mechanics	112
11. Radio construction	106
12. Pattern making	88
13. Concrete construction	72
14. Cabinet or furniture construction	31
15. Plumbing	23
16. Carpentry	17
17. Clay modeling and pottery	17
18. Commercial art	14
19. Machine drawing	11
20. Farm mechanics	11
21. General construction	10
22. Sign painting	9
23. Architectural drawing	9
24. Photography	7
25. Wood finishing	6
26. Foundry	6
27. Brick and tile	5
28. Reed and fiber work	4
29. Auto painting	3
30. Shoe repair	2

In the best of these industrial arts courses investigated, the manual aspects of the work and the studies of conditions and processes in present-day industry were found to include a large number and variety of concrete experiences. These are being selected from such divisions of industry as printing and publishing, electrical work, mechanical drawing and designing, carpentry, cabinet and

furniture making, pattern making and foundry, sheet-metal, forging, machine shop, auto mechanics, concrete construction, home mechanics, general construction and repair, and the like.

The problems, projects, or situations taken up in connection with the most promising of these activities result in useful and serviceable products. The most successful units of work give proper consideration to the kinds and qualities of materials, the appropriate design and construction, the processes of manufacture, the shop applications of physical science, mathematics, mechanics, and industrial history and civics as these relate to the problems under consideration. In several schools, each pupil also does a considerable amount of work that emphasizes the time element and accuracy of the commercial shop. Each organized activity thus includes studies of conditions in the industries, in addition to giving contact with typical materials, tools, machines, processes of construction, and well-organized shop work. In schools in which the industrial methods used in present-day production cannot be duplicated because of the necessarily limited shop facilities, these methods are studied through excursions, reliable reading matter, student reports, class discussions, and talks by specialists.

In the most progressive schools, all pupils are allowed some freedom in choosing their work in order that they may have opportunity to discover the value of any mechanical sense and ability, both in negative and positive ways. There are often definite types of problems to be done in each activity. This does not necessarily mean, however, that a pupil must finish all of the minimal requirements in one kind of work before taking up work in another activity. Pupils entering a course for the first time, for example, are sometimes allowed the choice of several introductory problems, or they may substitute prob-

lems of equal difficulty, as is frequently done in connection with outside projects when they have facility for doing satisfactory work. Through the student-foreman organization, an opportunity is provided for the pupils to try out their qualities of leadership in managing and supervising work and workers in each activity represented.

The most urgent need of the majority of boys from 12 to 15 years of age is not so much a high degree of manipulative skill in trade operations as reliable information with which to judge the industries. Where the best results have been obtained, the exploratory shopwork plan is paralleled by a study of real, productive industry rather than by a mere textbook acquaintance. There are but relatively few major kinds of raw materials, and comparatively few principles are involved in their manufacture. The number of great type industries and their important processes of production also are surprisingly small, a fact which suggests that these studies should follow type activities and widely significant operations somewhat intensively.

In addition to studies of general industrial conditions and relationships, group excursions to local plants and investigations of the various types of occupations as to importance, health conditions, needs, qualifications, wages, opportunities, conditions of employment, and the like, can help to form sound judgments relative to the character and possibilities of industrial callings. As occasion requires it, pupils may be brought into touch with reliable reading matter, unbiased specialists, or whatever sources of information are most needed at the time. In some schools a simple but effective cumulative card is used advantageously to record the inferences of teachers and others based upon pupil activities carried on inside and outside the school, both during the attendance and the follow-up periods.

Where vocational classes or coöperative courses exist, it has often proved more satisfactory to carry on as little as

possible of additional productive or highly specialized work in the "try-out" or "opportunity" shops of the intermediate school or the junior high school. At any rate, it is reported by an increasing number of these schools that industrial plants are being visited, first-hand information of the proper type is being made available, and an attempt to make clear the relationship between the school activity and the industry represented is undertaken seriously.

As already indicated, these recent developments in intermediate and junior high schools are gradually forcing the discontinuance of similar objectives and activities on the senior high-school level, especially since more than three years of such emphasis is hard to justify. In most cases these schools wisely place the emphasis mainly upon related knowledge in mechanics, mathematics, drawing, and science, rather than upon additional shop work for technical skills. The coöperative plan, where used, preferably provides for a well-organized and supervised sequence of shopwork in a productive plant and also for the coördination of shopwork and supplementary school work of a related and vital nature.

It is believed (as yet there is but little proof) that this purposeful education and training in the principles of applied science, mechanics, mathematics, and drawing will provide for more rapid advancement and higher grades of work in the occupations chosen. These studies sometimes include industrial organization problems concerning efficiency of management and the coördination of the various factors in industry from the standpoint of building and equipment, purchase of materials, and employment and supervision of workers through all phases of production to the final assembling and distribution of products.

2. *Secondary-school vocational courses.* With the vocational emphasis in the senior high school, which naturally is expected to follow the "self-finding" emphasis in the

junior high-school organization, certain related knowledge is considered either necessary or desirable as supplementary training in industrial practices for those secondary-school pupils:

(*a*) Who seek understanding of and insight into local industries as a basis for future promotion in industrial and allied callings
(*b*) Who desire industrial perspective as a part of their training for leadership in business and industrial pursuits
(*c*) Who wish an overview of the industries better to equip themselves for professional or semi-professional careers

Increasing numbers of these senior and regular high schools, aside from separate trade and technical schools, have arranged specific plans of part-time coöperation through their vocational departments, for those who expect to enter industrial occupations rather than professions.

Likewise, more cities have attempted, through coöperation with industrial establishments, to have the individual arrange his training program in the form of an apprenticeship agreement. This arrangement is usually based upon the following generally accepted principles:

(*a*) That wherever possible, all trade training given in the public schools should be in the nature of an apprenticeship leading to the status of a journeyman
(*b*) That, since it is generally conceded that a school cannot give sufficient training in the skill and speed of manipulation to graduate a student as a full-fledged journeyman, some of this training must be given during employment
(*c*) That, in order successfully to carry on trade training, the school must obtain the coöperation of the parent, the pupil, and the employer, and also the journeyman with whom the apprentice must work

Notwithstanding the existence of one or more technical high schools in each of several large cities of 200,000 or more population, it is not uncommon to find some duplication of these centralized courses in other high schools located in the same school systems. Unfortunately, a somewhat similar practice in the overlapping of technical and vocational curricula has caused no little confusion in a few cities which have failed to develop separate courses of study to meet clear-cut objectives for technical education and for industrial wage-earning. For example, more than a dozen schools were found to be providing identical instruction in carpentry, printing, electricity, mechanical drawing, millinery, dressmaking, and the like, both for general education values and for advanced trade training, each of which was being sought by a number of pupils enrolled in the same classes.

Despite the care which has been taken by a number of the state departments in setting up standards to meet the Smith-Hughes law as to general objectives, time schedules, qualifications of teachers, and other conditions, there have been occasional tendencies for school officials to change the names of courses designed primarily for general education purposes to include the term "vocational," without materially changing their content and method. Teachers of manual or industrial arts are sometimes reported to have added to this confusion by referring to their courses as "vocational" classes. One teacher and one supervisor even indicated that such a misleading designation had been adopted because it is "more popular" in the communities where their secondary schools are located.

Then, too, although the inauguration of intermediate and junior high-school organizations has taken place in a large majority of the 143 cities investigated, practically no changes are claimed in the purpose, work, or method of the industrial subjects in approximately 18 per cent of these

secondary schools. Furthermore, 95, or slightly over 37 per cent, of the 256 high schools in these cities have included promising changes in their upper grade curricula under the name of "senior," "cosmopolitan," or "comprehensive" high schools. It should be stated, however, that nearly twice this number, or 71.5 per cent, of the high schools now provide so-called sequences of industrial courses, which vary widely in their desirability for general education and vocational preparation purposes but do allow limited election of a more or less specialized nature beyond the intermediate or junior high-school period.

At any rate, day vocational courses either in separate schools or in high-school departments are intended for persons over fourteen, and often over sixteen years of age, who have elected preparatory training for entrance into industrial pursuits. Other types of vocational preparation are now provided in part-time and evening classes, either in connection with or apart from the high-school system. The part-time courses are designed for persons of compulsory attendance age not enrolled in full-time schools. With increasing effectiveness they are helping junior workers to adjust themselves through desirable occupational choices and training. The evening units of instruction are planned for persons over sixteen, and often over eighteen years of age. In varying degrees these courses are assisting older workers to advance in industrial occupations by means of instruction in shop practice and related technical subjects.

In day vocational classes there is more or less recognition of the problem of training workers and prospective workers for profitable employment. A few cities have extended this service to include coöperation with industry for the purpose of helping it to prepare its own workers. The best of these truly vocational courses not only emphasize necessary skill and related technical knowledge, but

also stress the much needed independence and self-adjustment in industry by developing thought-provoking situations at every opportunity. In part-time and evening courses, school officials can ill afford to neglect the continued extension of all legitimate forms of educational service which can appreciably assist large numbers of young workers and adults who have definitely left the regular day schools, but who frequently are far too inadequately equipped either as effective workmen or as worthy citizens.

Rural industrial courses. Rural instruction which deals with farm projects that are carried on inside and outside of the school shop, represents one type of local interest to be reflected in content and method. With few exceptions, the essentially rural communities have made notable progress by abandoning the absurd practice of basing their procedure largely upon the courses and methods of larger school systems. For obvious reasons, the so-called general composite or farm-workshop plan, which is proving to be somewhat of a solution for the industrial arts instruction in the smaller community, likewise is found most suitable for the limitations of these rural intermediate and junior high schools, especially where the advantages of consolidation are accepted.

Such closely related activities as carpentry, concrete construction, harness repair, forging, bench metal work, gas engine operation, machine assembly and repair, farm woodwork, and the like, should be taught. The local instructor can frequently extend the opportunity for concrete experiences and information by coöperating with practical men and establishments in the community. It is evident that the requirements in any one of these activities call for a diversity of dexterity and knowledge for understanding, constructing, improvising, and repairing products to be used on the farm and in the home.

The needs in farm woodwork, for instance, are not so

much for products involving carefully made, close fitting joints as they are for such comparatively rough but useful constructions as potato crates, gates, brooders, hen-coops, cold frames, seed testers, corn-cribs, garages, eveners, single-trees, and various rebuilding and repair jobs. The school may also stress the home needs as a part of the farm-mechanics courses. This is done by including the renewal and repair of such utilities as faucets, window shades, door locks, lawn mowers, doors that bind; also, the making of the many other adaptations which must necessarily be met in rural communities. When properly offered in terms of the school and home projects, the industrial activities and related studies furnish excellent possibilities for unifying the school, the farm, and the home life of all concerned.

Such a plan is now operating in six rural schools of the Chaffey Union High School District, California, located at Alta Loma, Cucamonga, Etiwanda, Fontana, Mountain View, and Central. Until 1926, the home and farm mechanics activities were limited to woodwork and mechanical drawing only, just as in many other rural schools at the present time. In adding electrical, sheet-metal, concrete, and miscellaneous experiences, it was found necessary to supplement the school-shop equipment already provided. This is being done with the aid of the so-called mechanic-arts automobile which transports the additional tools and equipment to the school where the unit remains for a period of twelve weeks. At the end of this time the unit of tools and equipment is checked and shifted to another school in exchange for a new unit. This system of rotating the different units makes possible the maximum use of a minimum amount of equipment. Previously, it was necessary for the high school to furnish transportation for the traveling teachers of shop and home activities, consequently there is no extra expense attached to the hauling

of the unit equipment. Of more importance is the fact that this plan permits the teaching of a variety of industrial activities in each school. It is reported that boys in these secondary schools find it possible to complete the cycle of industrial activities, represented by these six major units, during a two-year period. These elemental experiences, which are made as practical as possible, began with an allowance of only two hours a week, or from twenty to twenty-four hours devoted to each unit activity.

Those in charge believe that the educational value in these concrete experiences lies in the possibility of broadening and expanding the shop program so that the boy's understanding and ability shall better fit him for his future home and everyday life. The stated objectives for the home and farm mechanics instruction include: (1) to give a considerable amount of information regarding the history and development, use, and care of some of our modern tools, materials, and work processes; (2) to give an appreciation of the value, to the average man, of a working knowledge of the simple, everyday constructions in wood, concrete, sheet metal, and other easily worked materials, including the installation and operation of ordinary mechanical appliances and devices about the modern farm and home; and (3) to assist in the accumulation of sufficient first-hand experience to enable the boy to make minor repairs, installations, and extensions in a satisfactory manner. In carrying out these aims the mechanical-drawing unit emphasizes the reading and understanding of simple plans; the woodworking unit stresses practical application to home and farm problems, such as window screens, nail and tool boxes, work bench, saw horse, poultry- and rabbit-house fittings, etc.; the miscellaneous unit includes some work in glazing, painting and wood finishing, rope splicing, etc.; whereas the remaining units are worked out on the same simple but practical basis.

4. *City industrial courses.* Industrial subjects for cities of varied industries can be organized more easily to include different types of representative experiences chosen from present-day occupational and home pursuits. The organization of the industrial course offerings will be determined necessarily by the size of both the community and the school in question. A number of instructors and several distinct shops will be needed to accommodate large numbers of pupils, while only one instructor may be available to teach the industrial experiences in the small school. The larger junior high schools, for example, will continue for administrative reasons to organize their industrial activities on the rotation plan, equipping several separate, specialized shops to provide adequate facilities and instruction for the different classes. In many schools each one of the several unit courses will continue to be offered from five to seven and one-half hours a week during a period varying from six to ten weeks. On the other hand, the time allowed for the industrial courses in too many of the upper-grade curricula is still less than the manual aspects of the work and the studies of conditions and processes in the workaday world would seem to warrant. Many of the small and reorganized secondary schools will be hampered temporarily because of the necessary expense for equipment and instruction.

More teachers in the smaller communities will have the courage to reorganize their offerings on the general or composite workshop plan already mentioned, especially because such varied or diversified instruction can be expanded as fast as the conditions seem to justify. This arrangement also has the merit of making it possible to add other typical industrial activities besides woodwork from the outset. In some of these schools, where only six different divisions of industrial work are provided, the length of time devoted to each unit can be extended until other

activities are added. In any case, the advisability of this provision should be determined by noting whether or not the construction work and vitally related knowledge can be justified for the total amount of time, and either the length of the periods or the number of periods a week can be regulated to meet the local situation. As has been noted, the local needs and interests of an agricultural community demand a somewhat different offering and emphasis than could be justified for the city of varied occupational pursuits.

It unquestionably would be both impracticable and undesirable for any school to try to represent so great a variety and number of highly specialized occupational pursuits as are listed for any large city of mixed industrial establishments in the last report of the United States Census. The expenditure would be justifiable on the basis of neither educational needs nor vocational efficiency. Nevertheless, our experience during the past few years of experimentation in public-school systems seems to have demonstrated that it is possible to offer instruction in selected units of representative industrial pursuits which can result in more and better understanding of the conditions, problems, and possibilities in important industrial callings, as well as preliminary preparation for entrance upon them. Furthermore, this is now being done without the danger of overemphasizing either the much-discussed localized pursuits or the limitations in certain specialized occupations.

The most satisfactory progress is now being made where the instruction is organized on a flexible basis, mainly because of the greater recognition of individual interests, aptitudes, and capacities. In the smaller community this necessitates the plan of having small groups working simultaneously in the shop with different kinds of materials and equipment. In the larger cities where several shops are

available, the rotation plan may be used to the same end if close coöperation is had between the instructors in the separated but related shops. In addition to the construction work and directly related studies, the projects should not be confined to the limits of any one activity or shop.

Often the making of school equipment furnishes a motive for understanding and appreciating work of a most practical nature. Even here the subject matter should not be neglected. The use of suitable individual instruction sheets, timely demonstrations, planned excursions, as well as other teaching devices can do much to connect the school activities, which are being carried out under somewhat limited conditions, with those of the industries which they are attempting to represent. Likewise, some repair work may be justified, including outside as well as school projects. The making of products to fill orders from the outside, if properly controlled, can become a splendid basis for studying the methods and processes of productive industry. Work of this kind easily captures the interests of the pupils and can be made of educational value to them if the objective on the part of the instructor is not merely the making and doing of things in terms of the finished products. It also aids the progressive instructor to avoid the old-time list-of-operations or models course. Subject matter is as easily suggested for any of these projects, including those chosen by the pupils themselves, as for those listed in the course of study. Furthermore, where it is an item to be considered, this plan utilizes present equipment and provides for additional units only as needs arise; consequently, it provides opportunity for the maximum number of experiences at a nominal capital outlay.

Large cities, such as Pittsburgh, Rochester, Detroit, and many others, have provided the industrial curriculum apart from the exploratory courses in order to give individuals preliminary training in one of several trades. Although

the practices differ somewhat, provisions are most frequently made for instruction in machine-shop practice, electrical work, automobile repair and garage work, carpentry and joinery, pattern-making, printing, and the like. It is reported that these courses are intended to give preliminary training for entrance to the respective industries, that is, for immediate induction as apprentices (or helpers) at the beginning. In Detroit, for example, specialized training in several trades is offered to the extent of fifteen 60-minute periods a week during one year, with a possible maximum of two years for certain individuals. Those who are interested in pursuing these somewhat specialized courses are expected, and sometimes required, to elect "finding" courses in the seventh and eighth grades before they are permitted to specialize to the extent of fifteen periods a week in one of these preliminary training courses.

Rochester is typical of several of these larger cities which have provided quite elaborate plans for offering differentiated courses of an industrial nature during the secondary school period. Beginning in the Washington Junior High School, for example, three types of industrial courses are offered. These are called *general try-out*, *industrial technical*, and *vocational*. The general try-out course is intended for boys in the 7-A grade, as the requirement in this grade is that every boy shall have one period of shopwork a day. Therefore the aim of this course is to give the boy a general idea of what industrial pursuits consist, in order that, among other things, he may be better prepared to make an intelligent choice of his differentiated course of study when he enters the 8-B grade. This course includes home mechanics activities as well as work and study of the industries in Rochester. The industrial technical course is designed to accomplish a double purpose. It is an exploratory training period and a general industrial information course. This course is elective for boys in the 8-B grade

or above, and differs from the general or "foreign language" course only in that one period a day of shopwork is substituted for the foreign language. Each boy spends one term in each shop elected before changing or shifting to the next shop. As a result, upon graduation from the junior high school, each boy will have a fairly complete understanding of the industrial activities which are represented in the five different shops. This course is also preparatory for either the senior high school or the regular four-year high school, consequently a "cross-over" may be made to other courses at any stage without loss of time to the pupil. The aim of the so-called vocational course is preliminary trade training, but, after completing a two years' course in this division, a boy may enter the Rochester Shop or Trade School and continue his work for three additional years, at the end of which time he will have earned the State Industrial High School Diploma. In other words, the preliminary training is recognized as a beginning in the more intensive and specialized vocational or trade training offered by the Shop or Trade School.

A boy is permitted to enter the vocational, or prevocational, course at any time during junior high school attendance, if he is over fourteen years of age. Upon entrance, the boy and the parents choose the trade it seems advisable for him to follow as his life work. He is then given a ten weeks' intensive tryout period in his chosen trade. If he shows interest and ability and, in the judgment of his instructors, will probably "make good," he continues his training in that particular course for a period of two years. If his instructors believe that he is unfitted for that particular trade, he is given another chance at a chosen course through an intensive tryout, as before, in some other trade unit which promises more success for him. In fact, this tryout method is carried on until the boy either "finds himself" or until it is definitely decided that

he is by nature unable to succeed even passably well in industrial or trade work. This course differs from the industrial technical one in that boys do not carry on the regular junior high-school work in other subjects. The school day is divided into three hours of shopwork, one hour and a half of English, history, civics and hygiene, forty-five minutes of related mathematics, and forty-five minutes of related drafting. In the main, the boys in this course are those who intend to drop out of school at sixteen or before, and who desire an intensive period of training before going to work. It is interesting to note that over seventy per cent of the boys in this division were beyond the legal age for leaving school, as indicated in a recent report. It is quite probable that nearly all of them would have left the school, had they and their parents not been convinced that they had something to gain by continuing in this preliminary training course to prepare them for successful entrance and adjustment in industry.

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CHAPTER XI

THE SUPERVISION OF ART

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The purpose of this chapter is to set forth, as simply and as concretely as possible, some of the results of many years of teaching and experimentation in the field of fine arts in secondary schools. An endeavor will be made to show what general or individual artistic opportunities the supervisor may expect to find in his field of work, whether it be a great metropolitan city, a large industrial town, or a small and rural community; why he chooses as he does, and how he may meet the conditions which are bound to arise. It is hoped that the methods of organization and teaching which have helped some teachers to think of art as an inseparable part of living may go further and reach the innumerable others who are too prone to call it a fad and to regard it as a luxury, set apart to be studied and enjoyed by the privileged few. Just as soon as educators realize that every individual is sensitive to beauty and has capacity for enjoyment of the æsthetic, and that he only awaits the opening of the door of vision leading to this enjoyment, they will also see that all should be given opportunity for the development of this capacity.[1]

Problems of the supervisor and teacher of art. Expert supervision of art should direct the attention of teachers

[1] I wish to acknowledge, with deep appreciation, my indebtedness to the late Arthur Wesley Dow, of Teachers College, Columbia University, upon whose educational philosophy and principles of art teaching this chapter is based.

to certain definite problems: (1) to a broad conception of the possibilities in the teaching of art; (2) to a wide range of experience, in order that they may see the work of one year in relation to other years; (3) to the necessity for change as occasion demands; (4) to their own need for growth in appreciation and power; and (5) to the results of their instruction as shown in their pupils' lives, in such matters as independent choices in form and color. These effects should be noted in all situations, both in school and out.

Since the first duty of one who begins the supervision of art is to improve the teaching of art in the high schools of his own community before starting work in a new environment, he must find out what sort of teaching has already been done. He will, in coöperation with the art department, make a complete survey of the community, in order that the teaching of art may be related to the lives of the people. Knowledge of former teaching may be gained by the art teacher through examples of work left from preceding years and through reports given by teachers and children. Having gathered the necessary background of facts, he will then select those which best measure up to his ideals of the essentials of a constructive art course in the light of modern educational philosophy, always beginning with the familiar and gradually working into the unfamiliar, so far as the teaching body is concerned. In short, a wise supervisor will make no drastic changes the first term. He will regard the first year as an opportunity to become acquainted with his teachers, their problems, and the community.

The supervisor will find that all schools have common needs and interests, but there will be many individual differences. It will be his privilege to help each through his sympathetic understanding of the situations which confront his staff, and in the measure in which he helps

each school and each teacher to meet these problems, he may expect to win their confidence and respect.

Gradually the supervisor leads his teachers to see art in its broadest relationship, as an inseparable part of everything in the life of the child, in school, at home, and in that larger world which envelops both, and reaches forward into the future and back into the historic past. In this sense only can he justify the subject and demand for it the place it so richly deserves in the curriculum.

To accomplish this he must use every possible opportunity to confer with the art staff. He will put before them the results of some of the highest achievements in art teaching elsewhere, thus encouraging them in the broadest conception of their vocation. If junior and senior high-school teachers meet in the same group, each should be led to see his work in relation to the work of the higher and lower classes, thus unifying the development of art teaching from its beginnings in the seventh, eighth, and ninth years, which we call the junior high school, to its fulfillment in the senior high school. Such meetings are invaluable as a clearing house for discussing the relation of art to the life of the child. Ways and means for solving the problems of individual years should be discussed in group meetings of teachers from various schools.

Teachers in the first years of junior high school will find one of their first problems in the sudden change of teaching methods from the elementary schools. Up to the seventh year, art will have been taught in relation to everything the children are doing in school, at least if the elementary teachers believe in making the school a part of real living, as most educators agree it should be. When the children reach the junior high school, or the seventh year, for the first time their day is made up of a variety of subjects which at first seem to them dissociated, especially since each subject is usually taught by a different

instructor. Owing to a lack of experience and judgment on the part of the students, elections for art in the junior high school have two bad results. Children are likely to choose either courses which are unusual or courses approved by their fellow pupils, not having sufficient judgment to choose for themselves. It seems best therefore to plan an art course of sufficient scope that all may gradually see the whole field of art, and learn where their own interests and abilities lie, during a three-year period of exploration. If the course is well thought out, students are given a broad experience in the problems studied during the seventh, eighth, and ninth years, so that toward the end of the ninth year some choice may be allowed according to ability, always emphasizing the basic principles of art appreciation in connection with special interests.

During the tenth, eleventh, and twelfth years, or senior high school, there should be art electives for the purpose of developing any special interest or talent which has been shown by a student, perhaps of laying the foundation for a life work in artistic fields. Such electives should comprise the following subjects: costume design; commercial art in all its phases, including poster advertising; clay modeling and pottery; design in the graphic arts; stage design and crafts; portraiture; landscape painting, and any other form of creative expression which appeals to those electing art.

These elective courses should be given less formally than in an advanced technical school or college. In this way, if groups are small enough, several types of art expression may be carried on under the supervision of one teacher. Careful organization of materials and equipment is necessary, however, in order to avoid confusion and insure serious study on the part of the students.

The aims of art education. The aims of art teaching are twofold, appreciative and creative. They include the

development, in every one, of appreciative and creative power, leading to a greater enjoyment and understanding of the world in which we live. Since these capacities develop in proportion as they are used, the student should be brought into contact with fine examples of art, and should exercise his power of choice through many creative problems. "Appreciation of Art and of Nature's beauty comes best through actual attempt to create some simple kinds of beauty. All visible Art begins in this and has grown from this."[2]

Through the six years of the elementary schools, many individual differences have persisted, and remain the same in students of junior high-school age. With this body of students of the same age and general interests it may be easier for the junior high school, unhampered by a traditional curriculum, to provide for these individual differences than it was for the old organization of eight-year elementary school and four-year high school. The newer plan furnishes a splendid opportunity for the art teacher to discover innate abilities and interests. Therefore the course in the seventh, eighth, and ninth years should be as comprehensive as time allows, and so arranged as to give opportunity for each pupil to express himself in every medium of artistic creation and to discover his personal preferences. This means that students should have access to pencils, charcoal, paints (preferably tempera and transparent water color); clay, wood, metal, dyes, and textiles; knives, gouges, and linoleum; lettering pens, ink, and paper; and printing and etching presses and printing inks. In short, the specific aim which a supervisor keeps before the junior high-school teacher should be creative opportunity for all pupils in the various mediums, in order that specific interests and abilities may be discovered.

[2] *See* Ernest F. Fenollosa, *Spacing Epochs in Chinese and Japanese Art* (Heinemann, 1912), pp. 28-29, and Arthur W. Dow, *Composition* (Doubleday, Doran & Co., 1923).

Opportunity to develop individual interests and abilities and time to achieve the greater technical perfection which may lead eventually to a life career are the specific aims of the tenth, eleventh, and twelfth years, or senior high school. As Briggs says, "The first purpose of the school is to teach pupils to do better the desirable things that they will do anyway," and the second is, "to reveal higher activities and to make these both desired and to an extent possible."[3] If we accept these principles as fundamental, we must make an inventory of the activities which are not only desirable but also inevitable in junior high school, from which an appreciation of what constitutes beauty may be developed in both the junior and the senior high school.

Selection of subject matter in junior and senior high schools. The modern school seeks to create an environment made up of situations like those in real life. The supervisor with the teacher of art will plan the art courses with this thought in mind. Each will make a general survey of the community from this point of view, and will find that the vital interests of the students come under one of three heads: school interests, home interests, and community or civic interests.

The school and home interests comprise those activities in which every student engages naturally; therefore the supervisor leads his teachers to see all the ways open for improvement of æsthetic taste through these inevitable activities. In reality, art is so inseparable a part of daily life, that when this thought has once become apparent to teachers, the possibilities of art problems are so numerous and the selection among them for class use so difficult, that here the wider experience of the supervisor is needed to help in the decision.

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[3] T. H. Briggs, "Curriculum Reconstruction in the High School," *School Review*, Vol. 31, February, 1923, pp. 111-112.

The following list of typical interests and activities may prove suggestive to teachers who have not thought of organizing subject matter in this way:

School Interests in Junior and Senior High School

1. Entertainment:
   (*a*) School assemblies: plays, puppet shows, pageants
   (*b*) Festivals: Thanksgiving, Christmas, Easter, Washington's and Lincoln's Birthdays, Memorial Day, Columbus Day, Founders' Day, and so forth
   (*c*) School, class, and club parties
2. School publications, emphasizing the graphic arts:
   (*a*) Junior high-school magazine
   (*b*) Senior high-school magazine
   (*c*) Senior yearbook
3. Advertising, including posters and notices for:
   (*a*) Athletics: games and meets
   (*b*) Entertainments and school sales
   (*c*) Drives for raising money
   (*d*) School bank
   (*e*) Health week
   (*f*) National thrift
   (*g*) Library: notices for care of books; bookplates
4. Improving appearance of school:
   (*a*) Arranging furniture in classroom
   (*b*) Arranging pictures and bulletin boards on classroom walls
   (*c*) Arranging stage for assembly and other occasions
   (*d*) Arranging flowers for entertainments such as assembly, graduation, and class luncheons
   (*e*) Choosing furniture, floor covering, curtains, and pictures for rest rooms
   (*f*) Improving appearance of school yard or garden by placing and color of shrubs, trees, and flowers
   (*g*) Making or bringing flower dishes and holders for school use
5. Correlation with other school subjects:
   (*a*) History
      (1) Illustration of lessons
      (2) Study and design of maps

(3) Museum and library research for setting and costume of plays

(*b*) English

(1) Illustration and arrangement of themes

(2) Presentation of original plays, with designing of costumes and setting

(3) Museum research

(*c*) Languages, ancient and modern

Study of the art of the Greeks and Romans, Italians, French, and Spanish, noting the specific contributions of each

Home Interests

1. Color and arrangement of furnishings in student's own room
   (*a*) Stenciling, block printing, tied and dyed and batik textiles
   (*b*) Choice and arrangement of pictures
2. Arrangement of various rooms in home
3. Study of the architectural types of American homes in relation to our inheritance from England, France, Italy, Spain, and Holland
4. Study of the proportion and color of historic furniture, silver, pewter, glass, pottery, and textiles as related to America
5. Designing and planting gardens
6. Designing Christmas cards and other gifts, toys, and invitations and place cards for parties
7. Costume designing for girls, and sport ties and handkerchiefs for boys, to develop sense for line and color
8. Designing copper and silver jewelry, desk sets and book ends, in wood or metal, for home
9. Designing and making furniture for rooms
10. Designing bookplates for student's own library

Community Interests

1. Study of ancient styles in modern buildings
2. Development of civic pride in beauty by emphasizing clean-up week
3. Study of the æsthetic and commercial value of posters, signboards, and other forms of advertising, good in arrangement and color; control of sign boards

4. Study of beauty in city planning
5. Study of landscape in parks and gardens
6. Study of natural resources
   (*a*) Scenic beauty
   (*b*) Care of parks
7. Contrast of beautiful and ugly sculpture found in public places
8. Study of art in selling goods; arrangement in shop windows and on counters

General Interests

1. Drawing and painting for pleasure
2. Modeling for enjoyment, through masterpieces studied at museums or through photographs and slides, of animals, birds, people, and plant forms, emphasizing beauty of shape
3. Study of beauty in books
   (*a*) Choice of type
   (*b*) Choice of paper for texture and color
   (*c*) Arrangement of page
   (*d*) Illustrations
   (*e*) Cover design
   (*f*) Title page

Planning the art course. Experience in choosing and arranging lines, shapes, tones, and colors increases appreciation and creative power. Therefore, the important issue in planning an art course, for a year or a series of years, is to decide which among the various problems at hand will best foster the taste and growth in appreciation most needed by each class. If tests in art appreciation were standardized, this decision would be easy. As it is, a simple way of determining the need of a class is to start work on some phase in which the interest is keen. Very soon a wise teacher will observe where there are low standards in appreciation or technical power, and will then give the students time to improve in the same situation or will see that problems are attempted later which will develop

these weak points. One of the surest ways to kill artistic interest in a community is to raise a standard of achievement far too high for both teachers and students. That is to say, if a problem attempted is beyond the students' capacity for accomplishment, the resulting disappointment will be the worst thing possible for the would-be eager creators.

Simple problems should be attempted first, such as the arrangement of an English theme, with a choice of margins and spaces at the top and bottom of the paper and the arrangement of writing so as to get an even tone on the page. A notebook cover or a well-lettered notice for the bulletin board will also furnish a good problem. Gradually there should come the feeling for better arrangement in the classroom, the choice of suitable pictures, the shape of a bowl in relation to the flowers placed in it, the position of the flowers in the room. There is the problem, too, of suiting the line and color of costume to the individual. This gradually leads to a consideration of types of dress suitable for different occasions. Or perhaps the school paper needs illustrations, and the color of the cover must be chosen, or the students can help in planning a well-ordered stage for the Thanksgiving festival, and gradually develop stage designs of a more elaborate type (Fig. 1).

The supervisor will lead his teachers not only to see the need for art instruction in daily situations, but also to see where to put the emphasis and how to apply the principles which he has in mind without dwelling too much on theory. He will suggest to them that *repetition* and *rhythm, opposition* and *transition, emphasis* and *symmetry,* are concerned in almost every artistic decision which the students make consciously or unconsciously. He will then emphasize the value of experience with these various art principles and of the cultivation of a hidden reservoir of power

and pleasure, which all need and few have, art appreciation.

The teachers, through discussion in conference with the supervisor and fellow-teachers, will gradually become aware that an important factor of art education is opportunity for creation. Give the students opportunities to create, and their power will grow in proportion. Practical demonstrations are among the most valuable means of awakening teachers, and these should be as real as possible. Nothing has a more disastrous effect on students of high-school age than exploitation. If the supervisor has several schools and can arrange to have a few teachers happen in when creative work or the illustrating of a school magazine is in progress, such as the staging of a play, an excellent idea of the students' creative power when given free range under guidance will be obtained.

The precaution to keep in mind is that a well-planned art course uses these opportunities but takes account of the fact that interest can be sustained and reasonable growth insured only by increasing the difficulties when similar problems are chosen for two successive years. For example, the junior and senior high schools may both have school papers which need covers, illustrations, well-planned pages, devices for headpieces and tailpieces, and what not. Naturally the senior high school is more able to issue a complete magazine than the junior, but if the teachers do not supervise and suggest, many of these older students will revert to former well-known easy ways of designing. Here is an opportunity for the teacher to provide for growth in artistic power by suggesting a more advanced type of work. Students themselves take pride in increased accomplishment, and will readily accept any suggestions offered which afford a chance to learn something new. Here exhibits of work from other schools will stimulate

teachers as well as students, and for these the supervisor should arrange.

Organization of content. There are two methods of building a course of study in art. The first is based upon a carefully worked-out plan of procedure, every detail of which is studied in advance. The subject of art is considered in a logically arranged sequence of courses, and from the first year of the junior high school through the last year of the senior, the scheme builds up, step by step. Design, free-hand drawing, painting, and the crafts all receive their share of attention. A new student, on reading the course of study, knows exactly what he will do each term of the six-year period. His individual taste and differences of environment or social status have little weight in determining what he is to do, and, in a sense, how he will do it. All must study similarly, regardless of individual preferences or tendencies. The development of art as a subject to be taught and administered to all students alike, we call a logical (or academic) system of teaching.

Excellent material results may be achieved by this method, if these are what one values most. Through such a system, the results often far surpass anything anticipated by parents or teachers. But such results more often than not express the personality of the teacher rather than that of the student, and the work of the whole class is apt to show a sameness in style and finish.

The second method is the synthetic or structural, beginning with the immediate interests of the student. From the first he builds simple harmonies of his own. A clay bowl is fashioned for the flowers at home (Fig. 4), or there is need for some one who can set up or plan a well-arranged page for the school paper. Gradually as the creative urge in the class increases, the teacher has difficulty in supplying sufficient material for the demand. The supervisor

Eighth Year *The Lincoln School, N. Y.*

FIG. 1.—REPETITION AND RHYTHM IN STAGE DESIGN IN FIRST LESSONS

Ninth Year *The Lincoln School, N. Y.*

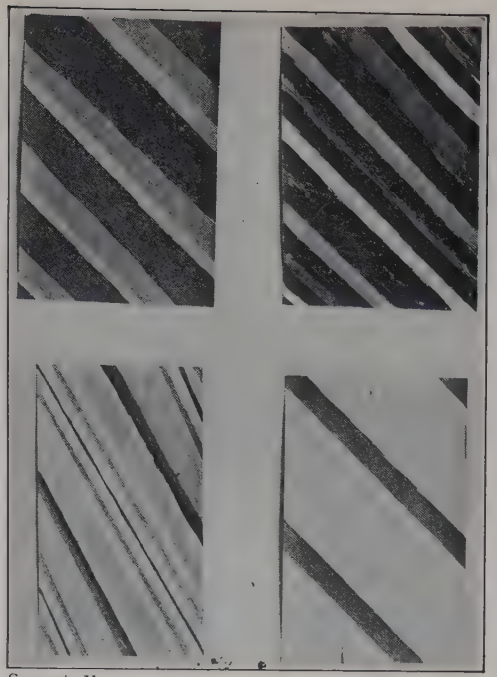
FIG. 2.—ORIGINAL SCENES FOR MEDIEVAL PLAY WRITTEN IN THE ENGLISH CLASS. PLANNED IN FULL COLOR

Seventh Year *The Lincoln School, N. Y.*

FIG. 3.—ORIGINAL DESIGNS FOR PLATES CARRIED OUT IN CLAY, GLAZED AND FIRED

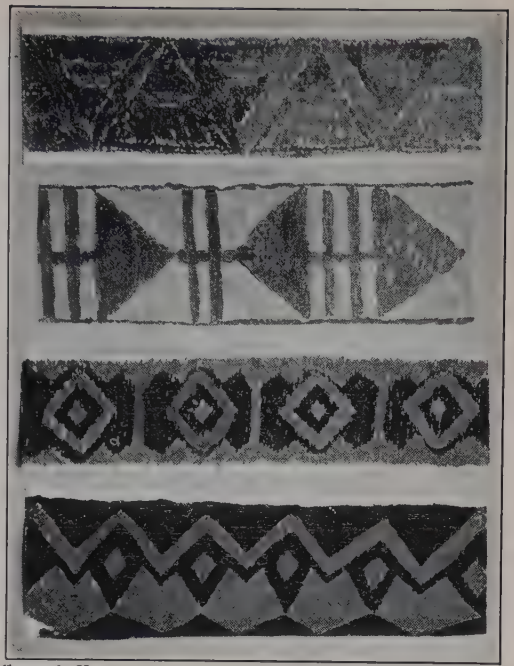
Ninth Year *The Lincoln School, N. Y.*

FIG. 4.—DESIGNS INSPIRED BY VARIOUS TYPES OF POTTERY IN MUSEUM



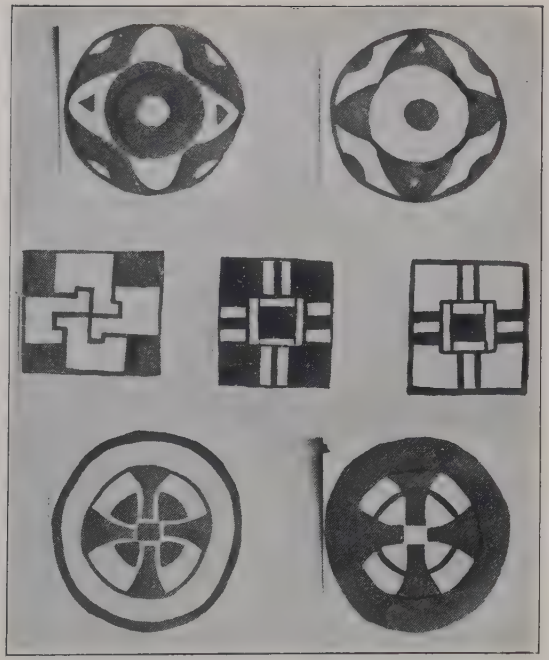
Seventh Year *The Lincoln School, N. Y.*

FIG. 5.—DESIGNS FOR NECKTIE SILKS



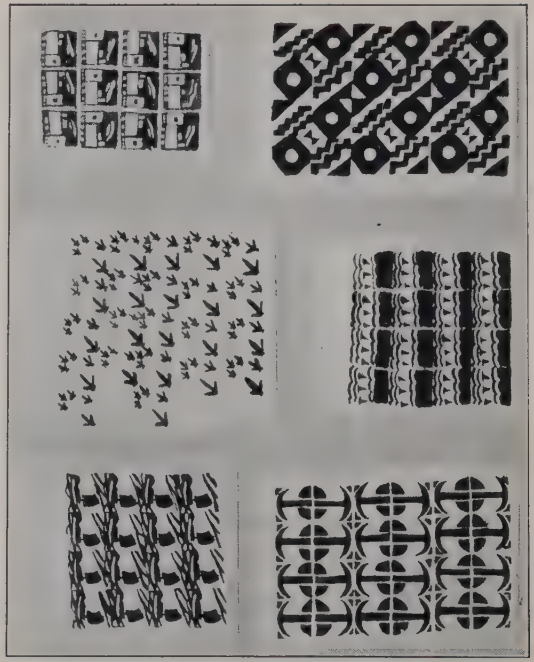
Seventh Year *The Lincoln School, N. Y.*

FIG. 6.—BEGINNINGS IN RHYTHM



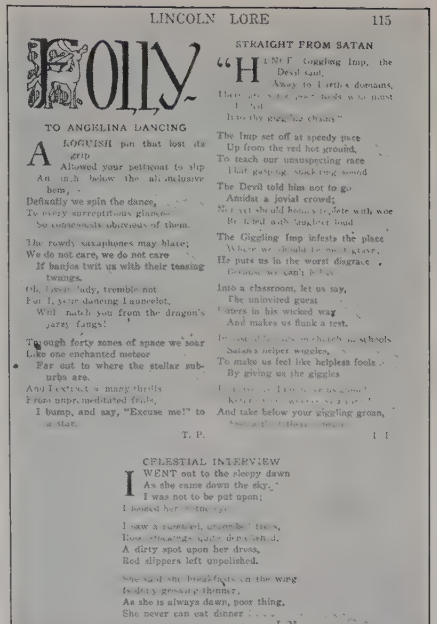
Eighth Year *The Lincoln School, N. Y.*

FIG. 7.—DESIGNS FOR CHRISTMAS BOXES



Eighth Year *The Lincoln School, N. Y.*

FIG. 8.—BLOCK-PRINTED END PAPERS



LINCOLN LORE 115

FOLLY

TO ANGELINA DANCING

A ROGUISH pin that lost its grip
Allowed your petticoat to slip
An inch below the all inclusive hem, -
Defiantly we spin the dance,
To every surreptitious glance—
So consciously oblivious of them.

The rowdy saxaphones may blare;
We do not care, we do not care
If banjos twit us with their tensing twangs.
Oh, Queen Lady, tremble not
For I, your dancing Launcelot,
Will match you from the dragon's jazzy fangs!

Through forty zones of space we soar
Like one enchanted meteor
Far out to where the stellar suburbs are.
And I extract a many thrills
From paper, meditated frills,
I bump, and say, "Excuse me!" to a star.

T. P.

CELESTIAL INTERVIEW

I WENT out to the sleepy dawn
As she came down the sky,
I was not to be put upon;
I hooted her [illegible]

I saw a tousled, unkempt [illegible]
Rose [illegible]
A dirty spot upon her dress,
Red slippers left unpolished.

She said she breakfasts on the wing
In every season's change,
As she is always dawn, poor thing,
She never can eat dinner [illegible]

J. M.

STRAIGHT FROM SATAN

"H[illegible] Giggling Imp, the Devil said,
Away to Earth's domains,
[illegible]
[illegible]

The Imp set off at speedy pace
Up from the red hot ground,
To teach our unsuspecting race
Their gasping, shocking sound.

The Devil told him not to go
Amidst a jovial crowd;
He said he'd bonus [illegible] with woe
Be filled with laughter loud.

The Giggling Imp infests the place
Where we should be most grave,
He puts us in the worst disgrace,
[illegible]

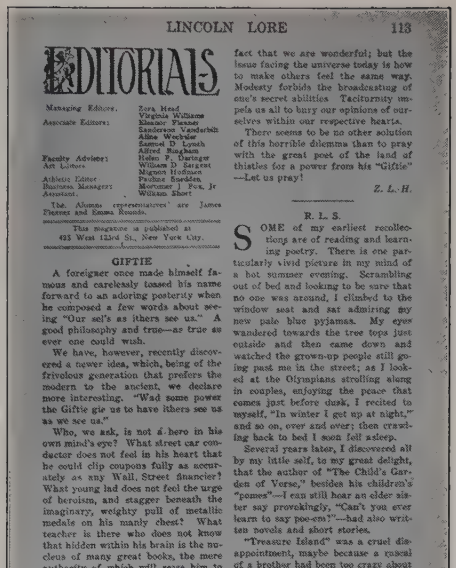
Into a classroom, let us say,
The uninvited guest
Enters in his wicked way
And makes us flunk a test.

[illegible]
Satan's helper wiggles,
To make us feel like helpless fools
By giving us the giggles

[illegible]
And take below your giggling groan,

Senior High School—The Lincoln School, N. Y.

FIG. 9.—HEADING DESIGNED BY GIRL OF ELEVEN



LINCOLN LORE 113

EDITORIALS

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Faculty Advisor: Helen F. Daringer
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The Alumni representatives are James Pierrot and Emma Rosenbush.

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GIFTIE

A foreigner once made himself famous and carelessly fanned his name forward to an adoring posterity when he composed a few words about seeing "Our sel's as ithers see us." A good philosophy and true—as true as ever one could wish.

We have, however, recently discovered a newer idea, which, being of the frivolous generation that prefers the modern to the ancient, we declare more interesting. "Wad some power the Giftie gie us to have ithers see us as we see us."

Who, we ask, is not a hero in his own mind's eye? What street car conductor does not feel in his heart that he could clip coupons fully as accurately as any Wall Street financier? What young lad does not feel the urge of heroism, and stagger beneath the imaginary, weighty pull of metallic medals on his manly chest? What teacher is there who does not know that hidden within his brain is the nucleus of many great books, the mere authority of which will raise him to the heights of literary recognition? In fact, what human being exists that does not see himself through a hazy pair of egotistical, self-glorifying spectacles? Not one. We all acknowledge (to ourselves, of course) the fact that we are wonderful; but the issue facing the universe today is how to make others feel the same way. Modesty forbids the broadcasting of one's secret abilities. Taciturnity impels us all to bury our opinions of ourselves within our respective hearts.

There seems to be no other solution of this horrible dilemma than to pray with the great poet of the land of thistles for a power from his "Giftie"—Let us pray!

Z. L. H.

R. L. S.

SOME of my earliest recollections are of reading and learning poetry. There is one particularly vivid picture in my mind of a hot summer evening. Scrambling out of bed and looking to be sure that no one was around, I climbed to the window seat and sat admiring my new pale blue pyjamas. My eyes wandered towards the tree tops just outside and then came down and watched the grown-up people still going past me in the street; as I looked at the Olympians strolling along in couples, enjoying the peace that comes just before dusk, I recited to myself, "In winter I get up at night," and so on, over and over; then crawling back to bed I soon fell asleep.

Several years later, I discovered all by my little self, to my great delight, that the author of "The Child's Garden of Verse," besides his children's "pomes"—I can still hear an elder sister say provokingly, "Can't you ever learn to say poe-ems?"—had also written novels and short stories.

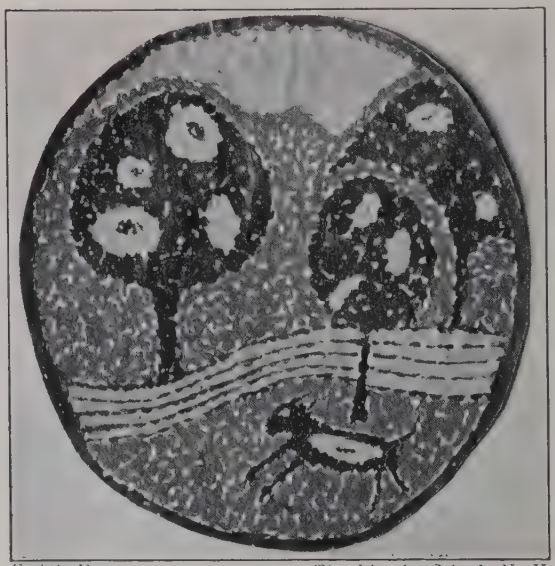
"Treasure Island" was a cruel disappointment, maybe because a rascal of a brother had been too crazy about pirates, but "The Black Arrow" soon made up for it. Then "Dr. Jekyl and Mr. Hyde" and "A Lodging for the Night" each had its own day, especially the latter, for Francois Villon and the snowy streets of Paris by

Senior High School The Lincoln School, N. Y.

FIG. 10.—SPACING OF TYPE PLANNED WITH FINE TONE IN MIND

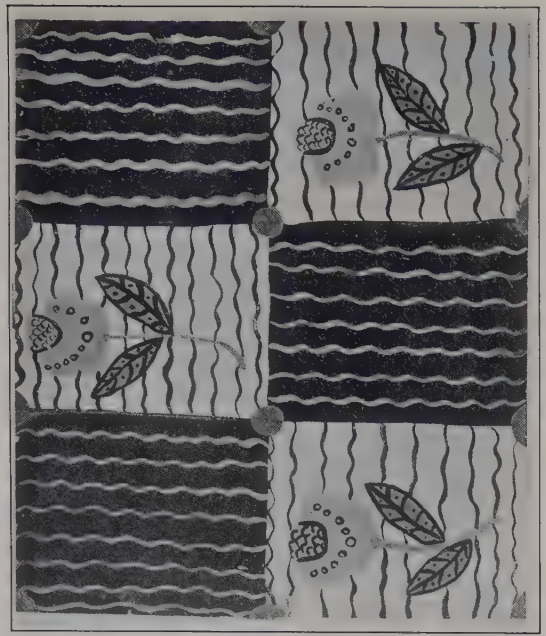
Eighth Year *The Lincoln School, N. Y.*

FIG. 11.—ORIGINAL DESIGNS FOR A LIVING ROOM



Eighth Year *The Lincoln School, N. Y.*

FIG. 12.—HOOKED RUG

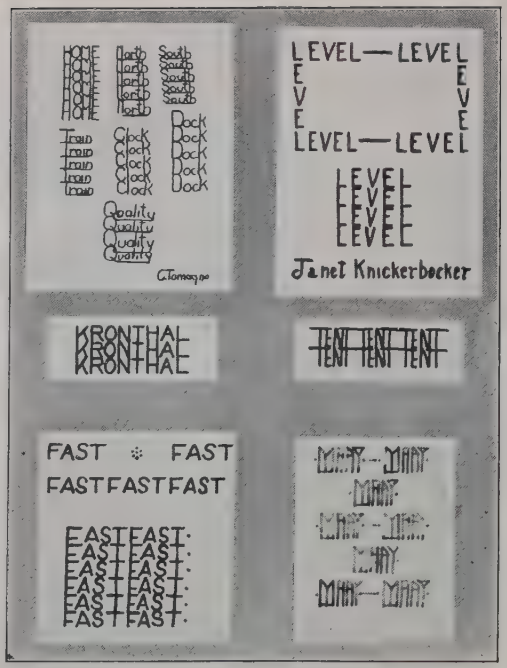


Seventh Year *The Lincoln School, N. Y.*

FIG. 13.—DESIGN FOR SILK

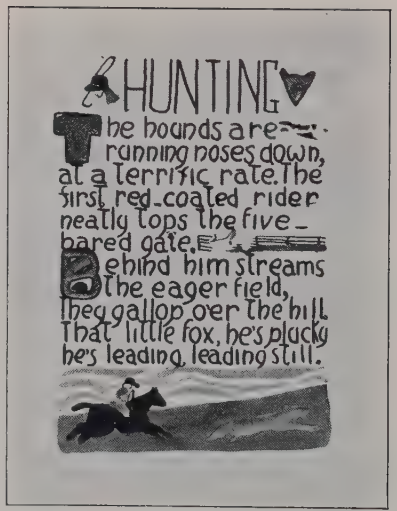
Junior High School— The Lincoln School, N. Y.

FIG. 14.—ORIGINAL LINOLEUM-PRINTED COVER FOR JUNIOR HIGH-SCHOOL MAGAZINE



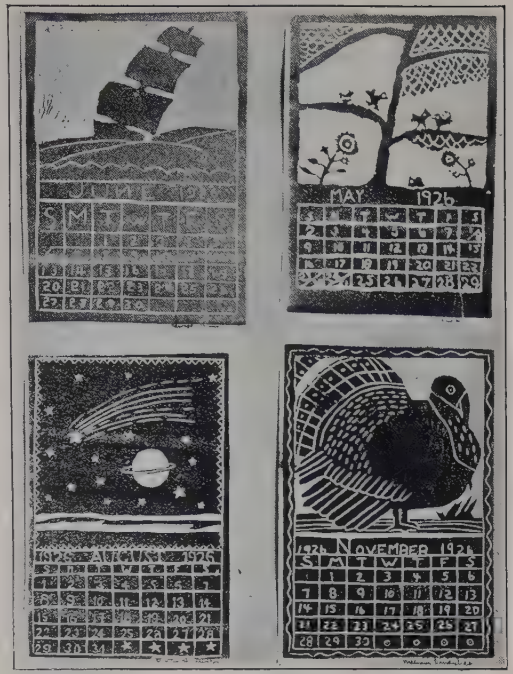
Seventh Year *The Lincoln School, N. Y.*

FIG. 15.—RHYTHM AND PATTERN IN LETTERING



Seventh Year—The Lincoln Sscool, N. Y.

FIG. 16.



Ninth Year *The Lincoln School, N. Y.*

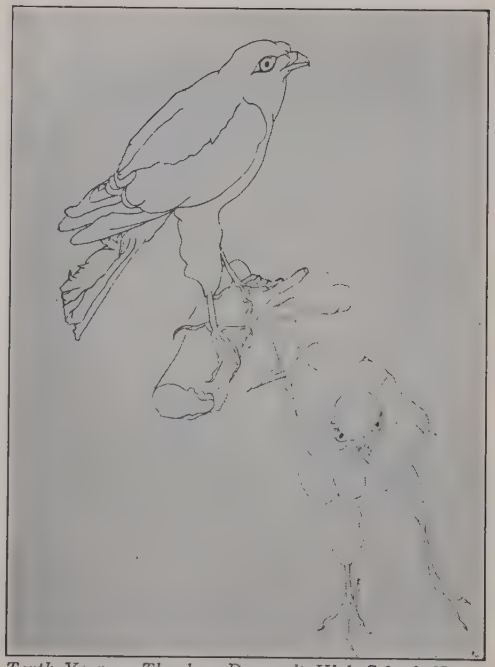
FIG. 17.—CALENDAR PRINTED FROM LINOLEUM BLOCKS

Ninth Year *The Lincoln School, N. Y.*

FIG. 18.—ORIGINAL ILLUSTRATIONS FOR SENIOR HIGH SCHOOL PAPER

Tenth Year *Theodore Roosevelt High School, N. Y.*

FIG. 19.—CONTOUR DRAWING



Tenth Year *Theodore Roosevelt High School, N. Y.*

FIG. 20.—CONTOUR DRAWING

Seventh Year *The Lincoln School, N. Y.*

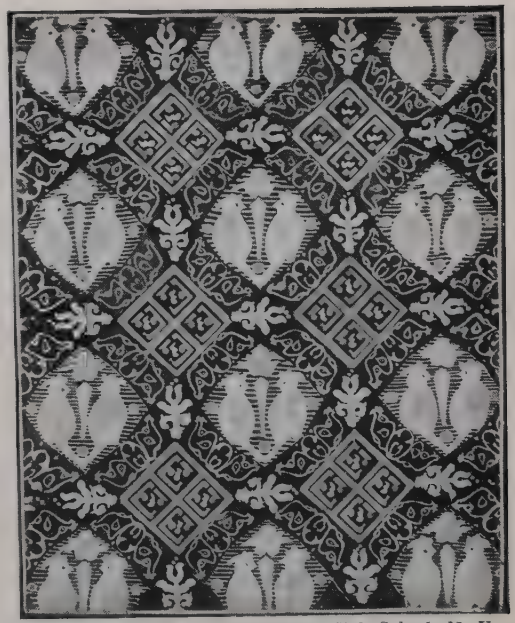
FIG. 21.—ORIGINAL PUPPETS FOR ALICE IN WONDERLAND

Seventh Year *The Lincoln School, N. Y.*

FIG. 22.—ORIGINAL PUPPETS FOR ALICE IN WONDERLAND

Senior High School *Wadleigh High School, N. Y.*

FIG. 23.—ORIGINAL DESIGN INSPIRED BY BYZANTINE IVORIES

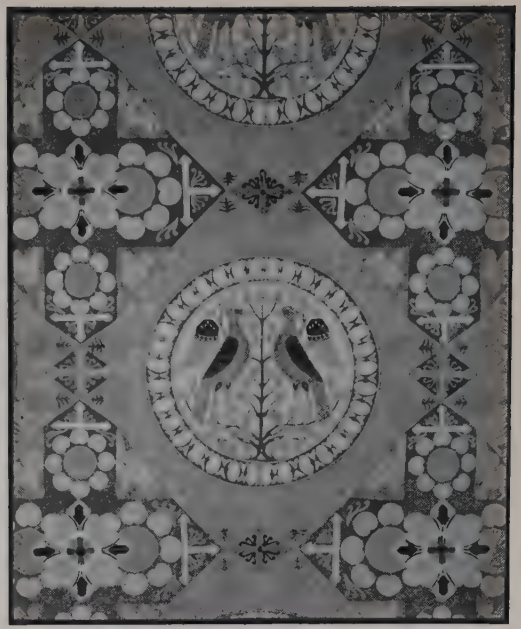


Senior High School *Wadleigh High School, N. Y.*

FIG. 24.—DESIGN INSPIRED BY EARLY CHRISTIAN CARVINGS

Senior High School *Wadleigh High School, N. Y.*

FIG. 25.—ORIGINAL DESIGN FROM MUSEUM INSPIRATION



Senior High School *Wadleigh High School, N. Y.*

FIG. 26.—SILK INSPIRED BY BYZANTINE ENAMELS AND MOSAICS

Seventh Year *The Lincoln School, N. Y.*

FIG. 27.—ORIGINAL LINOLEUM PRINT FOR ILLUSTRATED BOOK OF MIDSUMMER NIGHT'S DREAM BY A DIFFERENT STUDENT.

Seventh Year *The Lincoln School, N. Y.*

FIG. 28.—ORIGINAL LINOLEUM PRINT FOR ILLUSTRATED BOOK OF MIDSUMMER NIGHT'S DREAM

Ninth Year *The Lincoln School, N. Y.*

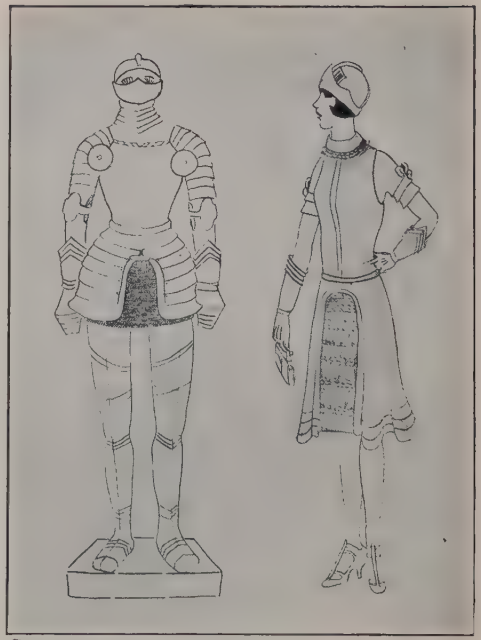
FIG. 29.—INK DRAWING, IMAGINATIVE HORSE

Ninth Year *The Lincoln School, N. Y.*

FIG. 30.—MAP: THE LAND OF OZ

Senior High School *Wadleigh High School, N. Y.*

FIG. 31.—ORIGINAL COSTUMES INSPIRED BY STUDY OF EGYPTIAN COLLECTIONS IN MUSEUM



Senior High School *Wadleigh High School, N. Y.*

FIG. 32.—ORIGINAL COSTUME INSPIRED BY ARMOUR IN MUSEUM

and teachers, understanding the principles which govern those harmonious relationships of line, tone, and color which are the language of art, seek to inculcate them in the student's mind by seeing to it that these first lessons attempt only simple expressions (Figs. 5, 7), with a few lines and colors, leaving more elaborate harmonies for the time when the student has sufficient appreciation and power to achieve them easily and naturally (Fig. 4).

The problem-project method of organization will suggest itself to many supervisors and teachers. In a school where much of the teaching in the six years of the elementary school has been organized around projects, and students have been accustomed to help in planning their own work with the counsel and direction of the teacher, this method will be a very natural mode of procedure for the junior high school. Such a method can succeed only with the closest coöperation of the teachers of various subjects. History, English, the languages, industrial arts, household arts, and fine arts must work together for economy of time and the best good of the class. Group meetings may be planned with the art teachers, who have in mind the core of experience in art which they wish to give to their classes. There will be problems in the other subjects where the help of the art department seems essential. If each department can satisfy some of its needs through such a coöperative scheme, much time and effort are saved and the students gain greatly in richness of background by the unification of their various studies. See Figures 9 and 10 for English and fine-arts correlation.

Another example may be correlation between fine arts and history, as in the following problem in the eighth grade:

I. Unit of study: "Our Forefathers in America"
   1. Contribution of art:
      (*a*) Appreciation of various types of architecture in old

American houses, beginning in the seventeenth century and extending through the first quarter of the nineteenth

(*b*) Necessity of knowing the characteristics of Gothic and Renaissance forms, and their differentiation in England, France, Italy, Holland, and Spain as a background

(*c*) Appreciation of the proportion, arrangement, quality, and nature of the design in each type studied

2. Methods of illustration:
   (*a*) Lantern slides, post cards, photographs, and magazine illustrations of original examples may be had on application to many museums and libraries
   (*b*) Lessons in drawing from original examples of houses and furniture to supply illustrations for oral and written reports in English and history classes
3. Original art problems resulting from such study:
   (*a*) Designing an attractive living room for a family of moderate means:
      (1) First step: spacing; the effect of emphasis on vertical and horizontal lines on the height of the room; the arrangement and proportion of windows, doors, and fireplace
      (2) Second step: design and arrangement of furniture and draperies
      (3) Third step: choice of color scheme and its application in the design. See Figure 11.
   (*b*) Designing and making a hooked rug, with illustrations from original examples:
      (1) Arrangement of design chosen
      (2) Arrangement of three values
      (3) Choice and application of color scheme. See Figure 12

Problems such as the making of rugs may be carried out in the industrial or household-arts classes, where coöperation is possible; otherwise, they may be done at home after the demonstration in class of how to make them.

A third example is that of coöperation between English, industrial arts, and fine arts:

I. Contribution of art to the publishing of the school paper:
   1. Design for cover: choice of symbol suitable to school, proportion and arrangement of title, design, and date. See Figure 14
   2. Choice of paper for color and texture
   3. Transferring of best design to linoleum block; use of knife and gouges in cutting block demonstrated
   4. Working out arrangement of type for title page and other pages through creative exercises with the lettering pen; shape and proportion of individual letters, their harmonious relation in words and phrases emphasized. See Figure 15
   5. Original designs for column headings. See Figures 9 and 10
   6. Illustrations of school activities. See Figure 18
   7. Illustrations for stories, poems, and songs. See Figure 16

In many schools the problem-project method of organization and teaching is still a new idea or entirely unknown. In such a system of schools, it would be difficult for the supervisor to introduce this method at first. The course of study in all subjects will have been carefully outlined through long years of practice, and at first both teachers and students would be hopelessly lost in the freedom confronting them. The teachers would need careful guidance in choosing projects which would give the necessary art experience, knowledge, and skill. The tendency with an inexperienced teacher, at first, would be to drift too far in allowing freedom in choice of project, and much ineffective work would result, contributing little or nothing in art appreciation and creative power to the needs of the class. In such cases, the supervisor would be a great help in making a decision among the several problems, all equally interesting to the students. Wide vision and tact are the watchwords for every supervisor.

The place of representation in the high-school course is another matter for the supervisor's consideration. Drawing should be given as much time in the junior high school

as is necessary for doing easily the problems undertaken. The time should be increased where greater facility of expression is needed, not only in the required art courses but also in any work the pupils undertake outside class time.

In the senior high school, where elective work is given, representation may be offered as a special course. Those electing special work in costume design, poster advertising, interior decoration, city planning, or landscape sketching should be assigned work which emphasizes their particular field. Many schools may not be able to give a special course in representation. These will divide the time between the elective courses and practice in drawing, as seems necessary, whereas a technical high school will have a definite course in representation. Thus, each school must decide such points for itself. Representation, when used only as a means to an end, should be given less time than when it becomes the vehicle of expression through which appreciation of art structure in painting is attained. Even in an advanced course in painting the composition of the whole, that is, the arrangement of the forms and the quality of the tones, should be the major consideration, although there must necessarily be much drawing from nature in order to understand the various natural forms.

In all their problems, teachers keep in mind the structural elements of art and their application to the individual case. These may be briefly noted as follows:

1. Structural Elements:
   - (*a*) Line:
     - (1) Contour and harmonious arrangement of lines and shapes
     - (2) Study of line quality, with pencil, crayon, charcoal, and brush
   - (*b*) Tone:
     - (1) Harmonious arrangements of dark and light built up with two, three, four, and five values

(2) Variation of forms and patterns by values

(*c*) Color:

Quality and variety studied through differences of hue, value, and intensity arranged in many variations

2. Applications of structural elements in many processes:
   (*a*) Design: drawing and painting
   (*b*) Wood-block or linoleum printing
   (*c*) Stenciling on paper, cloth, and wood
   (*d*) Tying and dyeing cloth
   (*e*) Batiking cloth
   (*f*) Printing with brush, lettering pen, and movable type
   (*g*) Clay modeling and pottery
   (*h*) Working in copper and silver
   (*i*) Paper cutting
   (*j*) Pencil, crayon, and chalk drawing
   (*k*) Etching on zinc and copper plates
   (*l*) Painting with transparent and opaque water colors
   (*m*) Lithographing on paper or stone (Compare *k* above)

The recurrence of art principles in a variety of problems furnishes the chief differentiation in a course of study, and the emphasis given lends the variety needed to insure interest. By taking advantage of the various artistic problems needing solution in the life of the students at school, at home, and in the community, the supervisor proves himself the inspiring and wide-visioned leader of his staff. He helps his teachers to be ever alert and watchful for such opportunities, showing them how to select problems that will inculcate the appreciation and power most needed by their students, where to vary the activities, and when to emphasize a principle by repetition and drill (Figs. 1, 6, 8).

In art, appreciation of what constitutes beauty is acquired through the experience of choosing what one considers beautiful and through association with masterpieces in some form. The combination of shapes, tones, and colors may result in harmony or discord according to the stu-

dent's choice. But freedom and opportunity for choice are the most important considerations for creative growth, and the truly wise supervisor, if at all proficient in art, will emphasize their importance by using fine examples of art in his conferences with art teachers, rather than dogmatic insistence upon certain combinations.

Methods of teaching students to draw vary, usually according to the standards which teachers learned when they themselves first studied representation. The method generally used is the skeleton method. In this students are taught to block in the general form of an object before they observe the existing edge which is the visible separation of that particular object which they wish to comprehend and draw from the rest of the world. The natural approach is to see the contour line first and to put it down fearlessly before the teacher has time to interfere.[4] As pupils become interested in representing objects, animals, scenes, and even people, the differentiation and comparison of their own attempts as well as those of others become of the keenest interest. Very soon a teacher observes not only that drawings rendered in this very direct and natural way are more alive and expressive than those done by the old, more laborious method, but also that many more can be produced in the same time and with more joy in the doing [5] (see Figs. 19 and 20).

Suggestions for lesson planning. Methods of teaching necessarily vary in relation to the type of lesson, the previous art experience of the students, the size of the class, and the facilities and time for carrying out the work. This is true regardless of how the work is organized. The types of lesson which naturally occur in the project plan of teach-

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[4] "An Experiment in the Art Department of the Theodore Roosevelt High School," *High Points in the High School*, November, 1926.

[5] *See* contour drawing by a pupil in the Theodore Roosevelt High School, *Dial*, October, 1926.

ing are classified by Kilpatrick [6] under the following heads:

Type I: "Where the purpose is to embody some idea of plan in external form":

(*a*) Planning a stage set for an original play of mediæval times. See Figure 2

(*b*) Illustrating "Midsummer Night's Dream." See Figures 27 and 28

(*c*) Making designs for "Alice in Wonderland." See Figures 21 and 22

(*d*) Designing lining silk. See Figures 13 and 23

Type II: "Where the purpose is to enjoy some æsthetic experience":

(*a*) A trip to see the work of Winslow Homer, Whistler, or Inness

(*b*) A trip by a class in pottery to see some old Mexican majolica or Sung pottery

Type III: "Where the purpose is to straighten out some intellectual difficulty":

(*a*) Effect of a gray day on the colors of the ocean

(*b*) Difference in the light on a landscape according to the time of day

Type IV: "Where the purpose is to obtain some item or degree of skill or knowledge":

(*a*) Improvement of form in drawing flowers, birds, figures. See Figure 20

(*b*) Improvement in the use of the lettering pen. See Figure 15

(*c*) Matching colors in painting a textile design. See Figure 25

These various lesson types make up the project or unit of work, and each has its individual mode of procedure. For Type I there may be the planning of setting and costumes for an original medieval play, given by a ninth grade, with:

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[6] W. H. Kilpatrick, "The Project Method," *Teachers College Bulletin* 10, Series No. 3, pp. 16-17 (Bureau of Publications, Teachers College, Columbia University).

6. Illustrations planned and printed
7. Magazine printed
7. Effect of margins studied for width and breaks in paragraphs. See Figure 9

Equipment for teaching fine arts. There are certain requirements in choosing equipment for the art department of any high school. The size of the room is of course determined by the number and size of the groups using it, which in turn depends partly upon whether the organization includes both junior and senior high schools or whether these classes are held in separate buildings. Small village high schools sometimes have but one art room, in which many activities must be carried on. These include not only drawing, painting, and design of various kinds, but also clay, metal, and textile work and the printing of linoleum and etching plates—all handled in the same laboratory. In larger towns and cities where art is required through the junior high school and electives are not only allowed but encouraged through the senior, two laboratories are essential. Many large schools handle the clay, metal, and wood work and the printing presses in the industrial-arts room. In giving the following list of general equipment, this will be taken for granted and only the essentials for the activities which are thought of as fine arts will be included:

1. Plenty of light, from the north if possible
2. Sink, with hot and cold running water; every art room should have a set of enameled pans for dyeing materials
3. Walls either faced with compo-board and covered with neutral-colored burlap or faced with a soft wood, preferably gum wood, against which temporary exhibitions may be hung.
4. Color of walls, woodwork, and furniture should harmonize, preferably in three values of the same hue
5. At least one large storage closet in which to store easels, drawing paper, mounting boards, and other large supplies used only occasionally

6. Cabinets built into the room for several purposes:
   (*a*) For students' individual supplies. For these the space of each compartment should measure at least 22″ in width, 16″ in depth, and 5″ in height
   (*b*) For class supplies, such as charcoal, show-card colors for poster work, water pans, India ink, fixative mucilage, and so forth. These should be at least 25″ deep to accommodate stock size of 24″ paper
   (*c*) For storing still life material. Such material must be chosen with care, so if possible the supervisor should be allowed to spend a reasonable amount each year for glass, pottery, textiles, and prints, fine in proportion and color. Many things will probably be loaned or contributed from the community as the interest grows

   Spacious cabinets make it possible to use the art rooms at times for other than art classes, as supplies may be cleared away quickly.
7. Tables, flat-topped with one drawer of quarter-sawed oak, in the following dimensions: top, 20″ x 30″, drawer, 18″ x 3″, legs, 2¼″ square and fitted with domes of silence. The latter make it possible to push the tables together to form a larger table for demonstration purposes or for cutting and printing large-sized materials such as posters, table covers, and hangings, or costumes for plays
8. Drawing boards (18″ x 24″) which should be of light-weight material, soft enough to take thumb tacks easily. Larger sizes may be desirable for special purposes. Wall board or white wood makes good boards
9. Stools, 18¾″ high, fitted with domes of silence making it possible to push them easily without noise when clearing the room
10. A filing case to accommodate cards, 9″ x 12″, on which magazine illustrations have been mounted for reference
11. Some provision should be made for the mounted work of students which is preserved from year to year on cards 22″ x 28″. Bins 29¼″ high, 24¾″ wide, and 24¼″ deep can be built into the wall and equipped with rollers and a handle, so that they can be pulled out when the work is needed for illustrative purposes

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12. Easels that fold up are the best, as they may be kept in the storage closet in a smaller space
13. At least two floor plugs for attaching electric plates for batik-printing are most useful
14. A gas plate is invaluable for use in dyeing cloth

Measurement of the results of teaching. With the advance in measurement of results in teaching the more exact studies, such as spelling and arithmetic, those who are helping to build a course in the creative subjects, such as art and music, begin to ask whether anything has been or is being accomplished in the testing of the results of education in those studies whose aim is largely appreciation.

Personal experience has demonstrated that the best test for growth in appreciative and creative power is the voluntary and unsupervised work which students do as a result of art instruction and contact with supreme examples of art (see Figs. 29 and 30). The things they wear and the pictures they admire and choose to live with speak more clearly than any number of examinations or tests. If students, of their own volition, ask for paints, clay, or other material to carry out an idea of their own, such as making a bookplate for the school library, designing a personal Christmas card, modeling one of the animals in the zoo, or arranging flowers for the class luncheon, such initiative shows more effectively than any devised test, the amount of appreciation and power gained from the course. Such evidences are useful guides in determining future elections in the senior high school, and often foretell the life work of talented students.

A few concrete examples will show what students can do in their free time if sufficiently interested and given the opportunity to express their creative impulse. A distant view of the Genii's palace appearing and disappearing as Aladdin rubbed the magic lamp was the result of an interested eighth-grade boy's making the most of the back-

ground for his class play, which was presented before the school. He was not one of the most artistically gifted students in the art course, but being of a mechanical turn of mind, the ability to make the palace appear and disappear appealed to him greatly, and he worked many hours outside of school time to complete his delightfully ingenious and charming experiment. The necessary research led him to an appreciation of the form and color of the best Mohammedan architecture, as well as of the beautiful Persian miniatures at the museum. Opportunity for such voluntary work may be given by encouraging students to use unoccupied art laboratories in their free time.

Among other problems done as the result of individual initiative, may be numbered the following:

1. Temple columns designed and made for Odysseus' palace, and bookplate designed for the school library by a ninth-grade boy
2. Cover for school magazine designed by an eighth-grade boy
3. Covers for Christmas entertainment programs designed, transferred to linoleum blocks, and cut by a boy and girl of the seventh grade
4. Headings designed for the school magazine by a high-school girl
5. Toys repaired and redecorated by boys and girls in high school
6. Animals in the zoo modeled by a seventh-grade boy
7. Block-printed table cover made for Christmas by a tenth-grade boy
8. Stage arranged for graduation exercises by a committee
9. Tied and dyed scarf made for Christmas present by an eighth-grade girl
10. Christmas cards made for sale by an eighth-grade class
11. Lineoleum cuts designed and printed by a seventh-grade boy

Miss Ethel J. Bonfleur of the Art Department, Oshkosh State Normal School, Wisconsin, includes in her Master's thesis at the University of Chicago, 1924, a very interest-

ing summary of art tests that have been published. She very kindly allows me to quote from the results of her research:

"Any attempt to give a complete summary of all the experiments in art for the past twenty-five years would be confusing. It is better, therefore, to deal primarily with a few typical and important series of experiments, grouping a number of supplementary investigations about these."

I give Miss Bonfleur's bibliography of these experiments for reference:

"An Attempted Experiment in Psychological Æsthetics," *Psychological Review,* Vol. 7 (1900), pp. 580-591.

"Æsthetic Judgment of School Children," *Journal of Applied Psychology,* Vol. 2 (1918), pp. 229-242.

"Experiments on a Possible Test of Æsthetic Judgment in Pictures," *American Journal of Psychology,* Vol. 29 (1918), pp. 333-336.

"Æsthetic Appreciation of Pictures by Children," *Pedagogical Seminary,* Vol. 25 (1918), pp. 216-218.

"An Investigation of Children's Preferences for Pictures," *Elementary School Journal,* Vol. 29 (1924), pp. 119-126.

"Empirical Study of Pupils' Ability in Public School Art Courses," *Elementary School Journal,* Vol. 20 (1919), pp. 33-46, 95-105.

"Æsthetics of Repeated Space Forms," *Harvard Psychological Studies,* Vol. 2, p. 193.

"A Further Application of a Result Obtained in Experimental Æsthetics," *Psychological Review,* Vol. 14 (1907), pp. 288-292.

"Individual Differences in the Judgment of the Beauty of Simple Forms," *Psychological Review,* Vol. 24 (1917), pp. 147-153.

"Test of Æsthetic Appreciation," *Journal of Educational Psychology,* Vol. 7 (1916), pp. 509-523.

"A Study of Æsthetic Judgments," *Journal of Experimental Education,* Vol. 6 (1923), pp. 36-43.

Polson, "A Study of Color Discrimination and Color Appreciation in Elementary Schools." Master's thesis, University of Chicago, 1924.

Hollis, "A Test of Judgments in Art Appreciation on Interior

Decoration Materials." Master's thesis, University of Chicago, 1923.

Miss Bonfleur says: "The most extensive test at the present time, since it covers practically the entire field of art appreciation, is the test by E. O. Christensen and T. Karwoski of the University of North Dakota." Important steps in this field have been taken at the University of North Dakota, Grand Forks, by the Departments of Fine Arts and Psychology. Some of these bulletins have been published, stating the results of the experimentation.[7] Professor Christensen, Director of Art in the University of North Dakota, thinks it is possible to build tests that will measure training and native ability in art. He says that his test in no way eliminates the necessity of judging the results of art study in terms of enhanced appreciation and creative power, but is rather a device for helping students with native ability to elect wisely and for guiding others into fields more suited to their taste and native endowment.[8]

Types of error found in teaching. Certain types of error in art teaching are so common in the average community that they are no doubt responsible for the prejudices against art which are often expressed by school executives as well as patrons and pupils. Among these, the following appear with disastrous frequency:

1. The art course is planned in accordance with adult standards, rather than the best possibilities of students of a given age. It is often made out according to the course taken by the supervisor or teacher when she herself was an art student, and almost no opportunity is offered students for freedom in creative

[7] E. O. Christensen and T. Karowski, "A Test in Art Appreciation," *Art Psychology Bulletin* No. 3, January, 1925, and No. 4, November, 1926 (University of North Dakota, Grand Forks, N. D.).

[8] *Discrimination of Varying Degrees of Organization in Simple Examples of Artistic Expression as a Measure of Sensitiveness in Esthetic Reactions* (Harvard University Press, 1927).

problems of their own. Technical perfection is the goal, rather than originality, invention, and good taste in problems connected with students' particular needs and interests

2. The teacher may have the correct idea in planning the work, but her method of presentation may be so poor that it does not stimulate the students' creative thought

3. There may be a dearth of the illustrative material which insures such stimulation

4. The teachers may make no attempt to supply this lack of material because they do not know how to set about getting it

5. The teacher may lack the social charm necessary to help her adjust herself to the school and the community

6. The teacher may lack initiative in helping to plan the work and may fail to coöperate because of the above causes

7. The teacher's own creative work may be allowed to lapse. She may permit the stress of teaching to keep her from pursuing some special artistic interest necessary to insure her sympathy with the students.

All these are common mistakes in art teaching, which may be helped and often completely changed by a keenly sympathetic supervisor. In the discussion of standards of improvement of teachers, may be found the answer to the question, "What is the remedy?"

Standards for the improvement of teachers. There are, of course, many and various ways in which the teaching of art may be improved. The supervisor needing assistance may apply the following suggestions when and where they fit his situation:

1. Teachers' meetings, where large aims are discussed, and such questions are answered as:

(*a*) Does the course as planned consider the pupils' real interests?

(*b*) Does it help them to solve in a better way some of the inevitable problems concerned with art?

(*c*) Do their personal appearance and the choices they make evince increased appreciation?

2. Conferences for small groups or individuals, where, if possible, through demonstration and exhibits the supervisor can provide his teachers a keener insight into the countless opportunities to connect the art lessons with the life interests of the students, thus securing an attitude of joy in the work instead of the dislike and boredom so often found in the old method of teaching. He can show them that if students feel the thrill of creation rather than the necessity of technical perfection, art will become a joy rather than something to be avoided, as was so often the case under the old way of teaching.

3. Exhibits of work from various classes raise the standard of teaching, since pride in accomplishment is roused and the comparison of work acts as a stimulus. The helpfulness of exhibits is increased tenfold if some one is present to explain and answer questions. Whatever help in art is given to teachers should be given as concretely as possible if the maximum amount of good is to result.

This brings to mind the great value of a museum, especially an art museum, as an aid in all education. Many will say: "But what if we have no museum?" The answer is this: "Why not create one?" Every school can have a beginning in its illustrated books and mounted photographs and illustrations cut from the magazines and newspaper supplements, to be kept on file in the library or art room. In cases where this is impracticable, the next best thing is a community art center in one of the central school buildings or the supervisor's office, where teachers may obtain helpful suggestions and inspiration of all kinds. Notices of exhibitions may be posted here also. See Figures 31 and 32 which show museum influence.

Many cities and towns are acquiring museums through the bequests of public-spirited citizens. A number of the larger museums have extension departments which send out exhibits of lantern slides, photographs, cinema films,

textiles, casts, and natural-history specimens to schools in need of such material. The lending collections of the Metropolitan Museum of Art are sent as far west as the Mississippi River, and a few have gone even farther. Museums have become a very real part of education, and where access may be had at first hand, the good accomplished is limitless. In the larger cities, such as New York, Boston, Cleveland, Toledo, and Chicago, school children are brought or sent by classes or individually, to the museum to hear especially prepared lectures illustrated by museum objects. An exhibit of textiles or prints, beautiful in color or design, may awaken new and unused harmonies in that reservoir of power, the creative imagination, and supervisors and teachers may see something happen with no effort on their part. It is best if the creative urge can come with no interference on the part of the teachers. The tactful supervisor demonstrates this by arranging a display of this sort for the teachers, that they may feel its significance in relation to themselves.

4. School clubs among art teachers are a valuable method of improvement. Exhibitions of the members' own work may be arranged through the club, thus stimulating each to progress along a favorite line. Unless art teachers find time for their own creative work, the tendency is to fall into a rut, with loss of sympathy and understanding of students' problems as a result. Discovery of new ways of doing the same thing is always stimulating, and is bound to result well for the art teaching of a community. Before long, it should be unnecessary for a supervisor to suggest advanced study to his teachers. The sense of pride and responsibility in achievement should be a sufficient urge.

5. The personality of the supervisor himself should be among the strongest influences in maintaining high standards among the teachers. A supervisor needs personal charm and a gift for leadership if the art he teaches is to

become a vital force in the life of the community. Supervision in art is more than exploitation and demonstration; it is leading one to be what one teaches. The supervisor's office, home, and personal appearance must represent those artistic principles for which he stands, showing to his teachers and the world that art is a part of real and more harmonious living. After years of such teaching, the result should be citizens with a background of resources and appreciation of higher values and the satisfaction which is achieved only through creative work.

6. Social gatherings may be held at the supervisor's home, which should speak more clearly than words of the power he would impart. The time has long since passed when the supervisor acted as a commander. Rather, he functions best in the capacity of a friend who stands ready to advise and help at every turn, because of his fuller general knowledge and experience.

7. Participation in making of curricula with teachers, where they see the application of beautiful line, harmonious dark and light and color in definite ways, eventually raises their standards, and gradually leads a whole community to think in terms of art.

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CHAPTER XII

THE SUPERVISION OF MUSIC

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The principal's relationship to music. There is probably no subject in secondary-school curricula about which the average principal knows so little and about the teaching of which he feels so incompetent to judge as music. His bases of judgment are often the success of public performances of the school organizations and the popular approval with which these performances are received. Relatively few instances are known of principals who have been concerned with the actual educational, spiritual, and social product of ably conducted music work. Although one can hardly expect the musically untrained principal to judge intelligently of the more technical aspects of music work, yet one may expect him to judge of both the products and the by-products of much that is done.

Music often occupies a position of aloofness in schools. This position, instead of being one of aristocratic superiority, is one of cloudlike intangibility. This subject is often regarded merely as an extracurricular activity of small consequence, and the principal is satisfied if the recreative values are stressed and the public programs are of an attractive character. If, however, the principal recognizes that music is something more than a "border-line" subject and that it possesses great potentialities of lifelong

value, he will be anxious that the music courses be carefully organized as to both content and sequence and that they be taught by broadly trained teachers who possess inspiring personality. Music then descends from its questionable aloofness and becomes thoroughly woven into the life of the school.

The pupils' relation to music. Before considering the specific questions involved in junior and senior high-school music, one may examine the raw material with which teachers have to work. As an introduction to a study of junior high-school music made by the National Research Council of Music Education, Earhart set forth the equipment, interests, and needs of pupils as they affect music in secondary schools.[1] As this statement provides an account of both junior and senior high-school pupils, it may be used as a groundwork for the subsequent discussion of music. By the time of adolescence, says Earhart, pupils have attained a maturity and appreciation of social values which permits of their being appealed to by a somewhat abstract social bond. Complex human relationships assume, at this time, a more important place than formerly, for such relationships now fall within the pupil's comprehension. His experience in the world of childhood serves as a subtle background for this age by providing concrete bases upon which to build his expanding and more complicated adolescent personalities.

> The fact is borne in upon him that his life is inevitably bound up with the lives of others, that their lives are interwoven with his, that he cannot, now or ever, sever these social relationships merely by taking his person away from the place where his companions are, but must adjust himself to them, now and for the rest of his life.

[1] Will Earhart, "Proper Courses in Music in the Junior High School, in Theory and Practice," *Journal of Proceedings* of the Seventeenth Annual Meeting of the Music Supervisors' National Conference, 1924, pp. 155-163.

Applied to music . . . this age suggests that the time is at hand for emphasis upon mass chorus practice and social singing. It implies, too, that the songs should be longer, more mature in both words and music content, and deal more with human relationships as found in the home, the nation, in situations that arise out of innumerable and varied human contacts. It means also that the attraction of organizations such as special chorus groups, glee clubs, music clubs, orchestras, and bands is now much greater than before, so that untold possibilities are open to the capable and enthusiastic teacher.[2]

Furthermore, as the result of varied social and individual experiences, there comes a vast increase in the types of appeal which can be made to pupils. One should understand, of course, that these emotional tendencies have gradually matured and that they are at this time nearly if not quite unquenchable. Owing to a thirst for rich emotional experiences, pupils stand in unprecedented need of musical expression. Earhart adds:

In the human relations of life lie stored the possibilities for joy, sorrow, love, disappointment, pride, shame, illusion, and disillusionment. . . . Like all emotions they compel to action; but uncontrolled, uncoördinated, they may drive the individual into dark and wayward paths as readily as they may lead him to undreamed of heights of emotional exaltation.

It is in connection with this stage of emotional life that music can play a part of untold value. Given no safe and guarded channels for its expression, the emotional nature of the adolescent is likely to exhibit an unstable, explosive tendency. Music, by virtue of rhythm, the social organization necessary to its expression, its beautifully ordered form and the purity of its emotional range, legalizes and directs emotional expression through safe and beneficial channels. Through it, feeling can at once vent itself and find itself purified, ennobled. . . .[3]

Increased mechanical capacity also comes with adolescence. Consequently, there can be more freedom in the

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[2] *Ibid.*, pp. 156-157.
[3] *Ibid.*

selection of the instruments which shall be used and compositions which can be played. This increase in mechanical capacity is a valuable compensatory development for the vocal difficulty which boys experience at the same time. Boys who are diffident about their somewhat undependable vocal organs can, by training, learn to express themselves more effectively and confidently through musical instruments. The interest of pupils in instrumental music is so great that, if instruments can be provided by either the pupils or the school, almost any number of pupils can be trained for participation in creditable orchestral programs.

No part of the whole school system has proved so rich in musical possibilities and performances as the junior high school. Although innumerable problems of time-allotment and schedule-making must be solved before these possibilities can be fully realized, one cannot doubt that the possibilities exist, and that it is our duty to devise the machinery and direct the operations which will promote them.

Objectives of high-school music. 1. *To develop a love for and appreciation of good music.* Through the radio, the phonograph, and other mechanical devices nearly every one is subjected to the influence of some kind of music. The ability to discriminate between the good and the bad, between that which is worth while and that which is trivial or even vicious is a matter of great importance to the individual. The basis of a trained sense of discrimination in literature as well as in music rests primarily upon a familiarity with the great masterpieces in these fields—products which have stood the test of time and which have earned their place as a part of the precious legacy of the past. A proper estimate of current literature and music usually may be made only by a comparison with that which has endured and which is accepted as standard. An appreciation of music may be developed by means of such

activities such as those described in the following paragraphs.

a. Beautiful singing of appropriate song material. In sharing a performance of music one has emotional and æsthetic experiences which far excel the vicarious experience of enjoying music through the performance of others. The opportunity provided through glee clubs and mixed choruses for participation in the performance of good music is, therefore, of importance from an appreciative point of view. Informal singing such as that done in connection with school assembly periods may and should be made an occasion of real artistic and educational value if the leader possesses the power to lift the group out of an ordinary and casual mood into one where inspired and beautiful singing will result. Such an occasion should not be devoted merely to the singing of typical song material, but should be used in part at least to acquaint the entire student body with some of the better known masterpieces of choral music. Participation in the singing of *The Heavens Resound* by Beethoven, *The Pilgrims' Chorus* by Wagner, or *Who Is Sylvia* by Schubert will be an unforgettable experience of inestimable value in forming a taste for good music.

b. Instrumental performance. The ability to play upon an instrument, even though it be done indifferently, supplies one with an understanding and feeling for the instrument that strongly influences one's appreciation of it. The growing interest in school bands and orchestras insures an increasing attendance upon band and symphony orchestra concerts and artist recitals. The boy who has played a violin will listen discriminatingly to the performance upon the instrument that he hears over his radio. Furthermore, membership in a school band or orchestra provides opportunity for becoming familiar with much of the standard literature of these organizations.

c. Æsthetic enjoyment of listening to beautiful music. For most persons musical enjoyment is largely a sensory pleasure. They respond readily to the varying moods of a composition and derive positive physical, mental, and spiritual benefits from it. There seems to be an added value if the music is familiar. Therefore, frequent opportunities should be provided for hearing the same material until the listener recognizes instantly the themes heard. In other words, this type of listening we might term listening for sheer enjoyment, rather than for the purpose of increasing knowledge. There is an all too prevalent tendency to attach stories, explanations, and other comments to music that is heard. Most good music will stand on its own merits without the necessity for comment and explanation.

d. Correlation with literature and history. Since music is so definitely a reflection of the spirit of the time in which it was written, it may be perfectly correlated with the literature and history of that time. It is as impossible to study the literature of the Elizabethan period without becoming familiar with the musical setting of the Shakespearean lyrics as it would be to catch the spirit of such music without an intimate knowledge of the drama and the period in which it was written. We have, therefore, the appreciative sense in music definitely linked with that of literature and history. The correlation of these three subjects together with that of speech, dramatic expression, costume design, etc., through the production of seasonal festivals provides one of the most effective means for the development of the appreciative sensibilities.

e. Conscious attempts of musical appreciation resulting from a study of structural form, harmony, history, and biography. In addition to the sensory pleasure experienced while listening to music there is the important aspect of intellectual appreciation which must be undertaken. Indeed,

the greatest satisfactions which come from listening to music are those which have an intellectual basis. An understanding of the structural characteristics of the composition, the thematic and harmonic scheme employed, paves the way for a species of active listening which far transcends the passive sensory enjoyment referred to above. A recognition of the art ideals of the period in which a composition was written immediately puts one in the attitude of mind necessary for its enjoyment. In the same way a familiarity with the personality and life history of a composer gives one a clew to an understanding of his compositions. To this end, therefore, formal instruction in history, biography, and structural and harmonic form are essential in the development of the fullest appreciation of music.

2. *To improve technical skill in musical performance.* The ability to sing or to play upon an instrument opens unlimited possibilities of enjoyment. A trained singing voice is an asset to the individual in his home and in the social group to which he belongs. The ability to play an instrument opens avenues of social enjoyment which otherwise would be closed. While the elementary training in music is provided in the grades, provision should be made in the secondary schools for a continuation of those types of training which improve skill and which provide a firmer groundwork of musical understanding. The following activities may help in the improvement of technical skill.

a. Rhythm training. Since rhythm is not only the fundamental basis of music, but is also an essential for the development of physical habit and technical skill, it should be emphasized in every possible way. Meter sensing in which students are encouraged to determine the rhythm of music which is heard, physical response through folk-dancing, and less formal types of bodily movement—

time-beating and song leadership, are all of the utmost value.

b. Sight reading, "ladder" drill, flash cards, dictation, and other forms of drill calculated to promote quick reactions. Sight reading is not an accomplished fact until the usual sequences of notes are read automatically. If a long mental process is involved in reading ordinary intervals, the skill is only partially formed and is of little value. All kinds of devices must, therefore, be employed to promote instantaneous reactions if a real sight reading skill is to be developed. In most instances technical training stops short of this goal.

c. Ear training. Ear training is contingent upon a knowledge of intervals, tone relationship, and pitch names (syllable, letter, and numeral). Although relative pitch in which the ability to reckon from a given pitch is the type of training which prevails, much is to be gained by training for absolute pitch, in which the student is trained to hear actual pitch as based upon present-day standards. In the latter type of skill, string players excel other types of performers.

d. Voice training. In addition to the fundamental training in breathing, tone placement, and phrasing, which every good leader of a glee club or chorus gives as a part of the regular routine of development, there is a place for special voice training classes where an attempt is made to approximate the results of the private teacher. Every secondary-school teacher of music should keep a record made twice a year of each individual voice under his charge. The adolescent voice is a delicate and rapidly changing mechanism and needs to be watched carefully.

e. Instrumental training. The achievements of high-school bands and orchestras would not have been possible had it not been for a scheme of training which has been put into effect and which not only improves technical skill

but also gives an opportunity for making players out of raw material. This is justified both as an avocational and as a vocational end.

3. *To utilize music as a wholesome emotional outlet.* The relation is very close between group activities providing opportunity for a high degree of coöperative effort and wholesome emotional self-expression and the development of morals, ethics, and the spirit of altruism and good citizenship. There is a very real need for a multiplicity of activities in which boys and girls of adolescent age may associate under normal and wholesome conditions. Group musical activities supply this opportunity. Among the ways in which music may be utilized as a wholesome emotional outlet are those next described.

a. Inspired singing during class periods. Music in common with other subjects tends to become routinized so that a class period may be so conducted that beautiful music is studied in a purely perfunctory manner and the zest or stimulus of a vital performance of music is wholly missed. The following activities aid in avoiding such a stultification of art.

b. Presentation of musical material at assembly periods and at other school functions. That intangible thing called "school spirit" is dependent in no small measure upon music. "Peppy" singing of school songs at assembly periods and at athletic games is a legitimate use of music. The high-school band also contributes something of great value on the athletic field and on other occasions where high-school spirit runs high. Under no circumstances, however, should the band be considered accessory to the athletic department, for it has educational ends to serve quite as important as those of athletic teams.

c. Programs given during class periods when every effort is made to create an unusual setting and mood. Carefully planned programs in which the dramatic element,

lighting effects, and other means calculated to stimulate the imagination are of value in heightening the emotional response.

d. Public performance of formal programs of fine music. Such occasions are a means of motivation of much of the group musical activity of the secondary school and provide a tremendous stimulus to good work. Occasions when the various musical organizations are coöperating in the production of a program are high spots in the career of many secondary-school students.

e. Presentation of operas and operettas. Music combined with dramatics is by far the most alluring form of musical activity. The opera and operetta when used legitimately are desirable forms of musical study. There are two possible objections to them, (1) the choice of cheap and unworthy material, and (2) overindulgence of this form of work. There is a vast amount of commonplace operetta material for secondary schools which should not be considered under any circumstances. There are available also some charming things which are good both musically and dramatically. The young person who has been privileged to share in the performance of *Pinafore, Mikado,* or in some of the other inimitable operettas of Gilbert and Sullivan will have something of lifelong memory to look back upon. G. Stanley Hall, in his *Educational Problems,* provides ample educational justification for this type of material. In the chapter devoted to the value of dancing and pantomime he shows that music, to be most valuable in the lives of young people, must be associated with gesture and movement. He suggests also that "music to be felt in the heart and life of the individual must somehow get into the muscles." The underlying motif of opera is action; music is sounding simultaneously with action, that is, bodily gesture, movement, and dance; therefore, it is essentially educational.

f. Encouragement of the creative faculty by the production of original verse and melody. The teaching of harmony in secondary schools should be designed to achieve this end. Encouragement should be given, however, to all pupils who have the slightest inclination to create a bit of verse or melody regardless of the amount of formal training which they have received. Most efforts of this character which achieve anything are inspired by some special event, such as a class play, a school pageant, or a celebration of a festal day.

g. Encouragement of group projects having social-service value. Under inspiring leadership a spirit of camaraderie can be developed in a musical organization which may be translated into some form of social action. The project of Christmas and Easter caroling illustrates this point. Other forms of civic coöperation that relate the musical activities to the training for citizenship may be easily devised. Musical organizations have an earning capacity in excess of almost every other organization in the school. Money earned by a musical organization should not be set aside for the special use of the group that earned it, but should be devoted to the common good.

4. *To offer opportunity for exploratory and vocational training.* There is no valid reason why the discovery and development of musical talent is not quite so much the task of secondary schools as is the training in manual arts and the commercial subjects. The American people spend between three and four million dollars a day on music. The number of persons making a living through music is increasing. "The extent of the vocational interest that music holds," Earhart says, "is not sufficiently well known. Surveys in two cities, in which music at the time of surveys was not believed by those in charge to be functioning as richly as it should, disclosed that from three

per cent to seven per cent of all pupils in their high schools had a strong vocational interest."[4] A survey in Rochester, N. Y., revealed a much stronger vocational interest. According to United States occupational statistics, music in 1910 in point of numbers engaged, ranked third among professions. In 1920, on the same authority, music ranked fifth, trained nurses and technical engineers having exceeded it in numbers, owing to the exigencies of the World War. The figures do not include the vast numbers who are semi-professionals—choir singers, part-time instrumentalists, college students paying their way by part-time professional work, etc., but only "musicians and teachers of music."[5-6]

Opportunities for music study in the public schools provide an excellent means for the discovery of talent. The elementary music courses given in the grades and the more technical courses given in the secondary school come at the time when they are most needed by the individual who will ultimately enter the profession of music. The nature of this vocational work is indicated in the following paragraphs.

a. Use of Seashore and Kwalwasser tests. These tests have been developed by able psychologists and are designed to determine oral, rhythmic, melodic, and harmonic sensitivity. One of their chief values is that of determining musical growth of the individual by making tests at stated intervals.

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[4] *See* "Survey of the Schools of Wilmington, Delaware," U. S. Bureau of Education Bulletin No. 2, Part II, 1921; see also "Public Schools of Memphis," Part V, U. S. Bureau of Education Bulletin No. 50, 1919.

[5] Will Earhart, "Principles of Elementary Course in Music in Pittsburgh," *Curriculum Study and Educational Research Bulletin* Vol. 1, No. 3, January-February, 1927 (Pittsburgh Public Schools).

[6] "Recent Advances in Instruction in Music," U. S. Bureau of Education Bulletin No. 20, 1923.

b. Basic courses providing foundational training, essential to all music study. This includes every conceivable musical experience that comes within the range of childhood and youth. Sight reading ability and technical skill upon an instrument must be well under way before maturity is reached.

c. Instrumental classes in which the various instruments of the orchestra and band may be learned. The probabilities are that most professional brass and woodwind players will be recruited from the secondary schools of the country. Private teachers upon these instruments are few, and, since the success of first-class bands and orchestras is dependent upon having competent players of these instruments, the schools in teaching the playing of these instruments can perform a valuable service to the musical development of America.

d. Classes in harmony and composition. The theoretical background of the average professional musician is usually deficient. The opportunity to secure a knowledge of harmony and elementary composition will in time lead to the raising of standards of musicianship among this class of players.

e. A band and orchestral experience. Ably conducted bands and orchestras in high schools will supply training for amateur players having ample technical skill but without experience; such organizations provide pupils also with an opportunity to acquire during the course the orchestral and band "routine" that is requisite for professional positions.

Types of music courses. The courses in music in both junior and senior high schools may be divided into two general types. First, formal, instructional, and academic courses, such as harmony, history, voice culture, instrumental training, and appreciation. These courses should demand fully as much outside preparation as other sec-

ondary-school subjects and should be given for credit. Within the second type are informal group activities of the rehearsal type, such as mixed chorus, boys' glee club, girls' glee club, band, and orchestra. In some of these activities outside study or practice is necessary in order to improve individual skill of performance. Credit should be commensurate with the amount and quality of work done. Courses of both types should run concurrently in both the junior and the senior high school; the purpose of the formal courses is to develop sound musicianship and a background of historical and technical knowledge, while the purpose of the informal courses is to give an opportunity for group emotional expression, and to develop skill of performance.

Junior high-school courses. In a study of junior high schools made by the National Research Council of Music Education, the following facts were revealed concerning the present status of music in junior high schools throughout the country:

1. In a majority of schools music is required in the seventh and eighth grades, and in more than half of the schools in the country it is required throughout the ninth grade.

2. The course most often required is a general one which includes instruction in singing, elementary musical theory, and music appreciation.

3. Two periods per week is the requirement in most schools.

4. Voices are tested twice a year in seventy per cent of the schools reporting.

5. Instrumental work, bands and orchestras with the latter in the majority, is extremely popular as an elective subject. Two-thirds of all students taking this work are classified according to ability.

Outline of Music Courses Recommended

Seventh Year

Required	Electives
General Music Minimum of 90 minutes per week in not fewer than two periods	Glee Clubs, Choruses Minimum of 45 minutes per week in one or more periods Class Instruction in Instrumental Music Minimum of 45 minutes per week in one or more periods Orchestra Minimum of 90 minutes per week Band Minimum of 90 minutes per week

Eighth Year

General Music Minimum of 90 minutes per week in not fewer than two periods	Glee Clubs, Choruses Minimum of 45 minutes per week in one or more periods Class Instruction in Instrumental Music Minimum of 45 minutes per week in one or more periods Orchestra Minimum of 90 minutes per week Band Minimum of 90 minutes per week

Ninth Year

General Music
Minimum of one period per week not less than 45 minutes

Glee Clubs, Choruses
Minimum of 45 minutes per week in one or more periods

Class Instruction in Instrumental Music
Minimum of 45 minutes per week in one or more periods

Orchestra
Minimum of 90 minutes per week

Band
Minimum of 90 minutes per week

Elementary Musical Theory, Melodies, and Chords
Minimum of 90 minutes per week in not fewer than two periods

Extraschool study of music

Instrumental work in the junior high school. The ideal condition is to be found in those school systems where opportunities are provided for elementary class instruction upon the various instruments of the band and orchestra in the middle grades. This plan insures a group of players for the junior high school who immediately become an asset to both the band and the orchestra. For the boy of junior high-school age, the band makes a stronger appeal than the orchestra. The band is also a more spectacular and valuable organization to the school as a means of promoting school spirit.

The orchestra, however, has enduring and superior music possibilities which must not be overlooked. The musical and educational values of the orchestra far surpass those of the band because of the wealth of available musical literature. Furthermore, the development of a large body of string players opens up possibilities in the way of cham-

ber music playing and home music that cannot fail to have a permanent value to all who share in it. In the development of both the band and orchestra the work must be on a sound training basis. The music must be of intrinsic worth, and the equipment and other physical conditions must be favorable for efficient work. The time is past when the band is merely a noise and "pep"-producing device accessory to the athletic department. Many high schools throughout the country now have symphonic bands comparable with professional organizations both in instrumentation and performance. Such results can be attained only where the training is on a systematic basis with a constant regard for the development of individual skill. Success in ensemble work of all kinds is dependent upon a degree of uniformity of skill among the members of the group. Special classes should, therefore, exist for all pupils who lack skill and for those in need of additional foundational training. The successful orchestra is dependent upon the skill of the string choir and upon the completeness of instrumentation. Many schools have followed the short-sighted policy of offering class instruction merely in violin. An orchestra is impossible without violas, cellos, basses, oboes, bassoons, and other less frequently used instruments. Successful class methods have been devised by which all these instruments may be taught. Such classes constitute an indispensable subsidiary part of the instrumental work of the secondary school.

The artistic and educational possibilities of instrumental work are dependent upon (1) opportunities for class instruction upon *all* of the instruments of the band and the orchestra; (2) a scheme of organization which places players of like skill in a group; (3) the use of music of educational value; (4) carefully organized plans made out for the year; (5) the recognition of the educational values and a time allotment within the school program.

Senior high-school courses. In the senior high school we have the "flowering-out" of much that has been done in the junior high school. The courses to be found in well-organized schools are the following: theory of music, harmony, history and appreciation of music, voice training, glee clubs, mixed chorus, band, and orchestra.[7]

a. *Theory of music.* The theory of music course is introductory to the study of harmony and should be taken by all pupils who share in the musical life of the school. This course deals with the elementary facts of notation, key signatures, scales, intervals, ear training, musical terminology, and simple chord formations. Knowledge of these facts is too often taken for granted by teachers of harmony; its essential character for all other music study is set forth by Earhart: "The connection may probably best be seen by drawing a parallel with English. If a pupil's experience with English were restricted to selections that could be repeated to him until he could remember and carry them away, his appreciation as well as his entire development in connection with the subject would be dwarfed by the meagerness of such experience. So rote songs presented by a teacher, or music presented by a phonograph, will form an insufficient basis for a musical development of any great value. A necessary factor of growth, too, is 'prolonging, repeating, and intensifying one's experiences.' In the case of rote songs this process would suffer only in extent, not in strength; but in the case of selections heard on the phonograph, where there is only auditory memory, unaided by visual, tactual, or muscular associations and images, recalls or actual repetitions do not gather additional strength.

"Given acquaintance with staff-notation, even without real ability in independent sight-reading, repetition of experience is facilitated and the experience is enriched.

[7] See pp. 545 *ff.* for formal outlines of senior high-school courses.

When there is actual sight-reading ability, a world of music to be independently arrived at [in which is included the indispensable field of harmony and part-singing, impossible of exploration by rote] is thrown open to the learner."[8] In this connection, Earhart points out the error which certain educators have committed in overlooking the fundamental importance of this general course as a basis for the appreciation of music which they advocate.[9]

b. Harmony. The course in harmony should be approached from the creative self-expressive point of view and should not be considered merely as a species of musical grammar. Certain fundamental facts of chord progression must, of course, be taught. The student should, however, be encouraged to interpret his harmony in terms of his applied music and to venture into the creation of simple tunes and harmonizations of his own rather than merely remaining content with the performance of routine exercises from a textbook. Through the setting of poems to music and supplying original music for special day celebrations, the work in harmony may be correlated with the classes in literature. Noteworthy success has been attained in Pittsburgh and in Minneapolis in the development of such creative work among high-school students of those cities.

c. History and appreciation. In this course is offered the largest single opportunity of influencing the taste of youth. Requiring no technical skill for beginning it, this course is available to the average boy and girl who desires some cultural contact with music. Too frequently this course is unorganized and is devoted largely to listening to phonograph records. Such a procedure does not in any way realize the aim of the course, for as Julian Hawthorne

[8] Earhart, *op. cit.*, p. 7.
[9] *Ibid.*

observed, "There is no culture without root."[10] In the first place, the assumption should be, in planning this course, that it is designed to develop *intelligent* listening. The implication is, therefore, that the listener is being carried beyond the mere sensory enjoyment of music into the realm where his intellect plays an important part in the process of musical understanding. The essential background for this intellectual listening is to be found in the history of music, in biographical studies of great composers and performers, in musical criticism, and above all in a general understanding of the structural characteristics of musical compositions. The appreciative faculties are further stimulated where a parallelism is drawn between music and other art forms such as design, painting, sculpture, architecture, and drama. A course of this kind, therefore, becomes one in elementary æsthetics and can be made both fascinating and valuable. Correlations with art and literature departments are, or should be, a matter of course. Successful work in this field is dependent upon having ample equipment in the way of records, rolls, good reproducing instruments, scores, and reference material.

In the second place, pupils must proceed at their own pace in musical as in literary appreciation. They must be accepted at whatever level of musical intelligence they chance to have reached and be directed from that point to an intelligent appreciation which is both more comprehensive and more intensive. Just as in literature, so in music, some of the finest examples of classic compositions are within the reach of the untrained pupil. As examples, Beethoven's *Minuet in G,* the Bach *Gavotte in G Minor,* and the old English song, *Drink to Me Only with Thine Eyes,* require little, if any, systematic preparatory train-

[10] Will Earhart, "Music in the Public Schools," United States Bureau of Education in Bulletin No. 46, 1917, *The Public School System of San Francisco, California.*

ing for the listener's enjoyment or intelligent appreciation of them. Such selections, like Stevenson's *Treasure Island,* require only a reasonably favorable setting for their appreciation.[11]

The analogy between literature and music can profitably be extended from this point. Many persons will agree that a few literary or a few musical selections are enjoyed at first hearing even by relatively untrained pupils. A difficulty arises, however, when a teacher attempts to plan a sequence extending from those selections which make slight demands upon appreciative capacities to those which make heavy demands. Although such a sequence is necessary in both literature and music, the difficulty of having pupils read large numbers of books has deterred many teachers from planning such a sequence. The planning of such a sequence in music is far simpler—a musical selection can be performed within a few minutes, and hundreds of selections are readily accessible everywhere. Furthermore, sequences can be arranged upon many bases, such as the works of individual composers, certain periods of musical development, the compositions for piano or orchestra or violin, and so on. Sequences beginning with selections which have almost universal appeal at first hearing can be followed by many others which have only slightly less initial appeal. That is, the steps or grades in the sequence in music can be, as they should be, very close together, and acquaintance with the selections at each of these steps can be intimate. For progress in appreciation, like progress in the formation of a difficult skill, comes slowly.

In the third place, pupils cannot acquire ability to appreciate music by having too large a proportion of explanations, epitomes, and dates of composers' lives. Following Hawthorne's comment, one may say that the main root

[11] *Cf.* A. H. Peppin, *Public Schools and Their Music* (Oxford University Press, 1927), pp. 16 *ff.*

which feeds musical culture is music itself. Much can be added, however, by showing, unobtrusively, that most selections are composed according to patterns which vary little within classic examples of a given type of selection. For example, the concept of the three-part song form enables a listener to understand a pattern which applies to many selections. For the pupil to whom the sonata or concerto is nearly unintelligible, a very little coaching enables him to detect, as he listens, the main theme, transition, subtheme, and so on. Similarly, the relation of music to the periods of musical development, as the quaintness of early English music or the harmonic development of early nineteenth-century music, requires little explanation for its intelligent appreciation. The principle that explanation, elucidation, and analysis should follow, rather than precede enjoyment applies here as in art and literature.[12]

d. Voice training. A relatively new type of course which is calculated to improve greatly the quality of singing of the ensemble vocal groups is now offered in some of the more progressive secondary schools. This is a course in voice culture which aims to provide training in the proper use of the voice by means of the class method. Such work keeps the adolescent voice from contracting bad habits which might, in the end, permanently injure it. The instruction provided in such a class in artistic phrasing and interpretation is immediately apparent in a more beautiful quality of tone, a more perfect intonation, and a more finished interpretation in the ensemble groups.

e. Glee clubs. The boys' glee club and girls' glee club are popular forms of musical organization. They have usually been regarded as extracurricular activities because of the type of work done and the social purpose served.

[12] See Earhart *op. cit.*, pp. 371-376 and 394 *ff.* See also Louis L. Mohler, "The Teaching of Music Appreciation as a Phase of Modern Education," *Proceedings and Addresses* of the National Education Association, Vol 62, 1924, pp. 598-602.

As the quality of music instruction has improved, however, the character of such organizations has changed, and we find glee clubs singing a type of material comparable with that done by more mature men's and women's organizations. Valuable as is this development, it will be unfortunate if the standard of musical attainment of the individual member becomes so high as to exclude all but the gifted boys and girls from such organizations.

f. Mixed chorus. Although somewhat overshadowed by the spectacular development of bands and orchestras in the high schools, the mixed chorus continues to be the most valuable single musical organization for the reason that it offers to the average boy and girl an opportunity to share in the performance of great choral literature. The high school that limits its vocal activities to glee clubs and to small mixed chorus groups is not fulfilling its duty, for the inspiration which comes from a large body of singers of even mediocre ability contributes something of infinite value to school life. Furthermore, the combination of such a chorus with the high-school orchestra presents possibilities of climax excelling all other possible combinations.

There is a place in the scheme of things, however, for the small mixed chorus of selected voices, made up preferably of those who are also having class instruction in voice. This organization can perform *a capella* music in four, six, and eight parts of a very high order. The Cleveland high schools emphasize this type of work, and the singing of their small choruses compares favorably with the performance of the fine choral organizations of adults.

g. Band and orchestra. The work of the band and orchestra, as indicated above, continues the work of the junior high school. The senior high-school orchestra should now have reached symphonic proportions with a skill sufficient to play much of the standard literature of the symphony orchestra. Under wise leadership the skill of the

especially gifted players will now be nurtured by means of smaller ensemble and chamber music groups. Many of these young players will be studying their instruments under private tutors and an occasional one will evidence sufficient talent to warrant the vocational use of his skill. Mediocrity, however, offers few rewards in the musical profession; therefore, the amateur point of view should prevail, and young people should be encouraged to develop their skill for leisure time and cultural values.

Orchestral development in the high schools or grades depends upon the provision of special teachers and conductors, provision of orchestral instruments, and provision of suitable music in sufficient quantity. The pupils will respond anywhere and everywhere in proportion to these provisions.[13]

The recent appearance of the National High School Orchestra at the meeting of the Department of Superintendence of the National Educational Association at Dallas in 1927 was a magnificent demonstration of the capacity of youth to rise to great musical heights. In this orchestra of 253 players from thirty-eight states in the Union was demonstrated not only the wide use of high-school instrumental music throughout the country, but also the magnificent democracy of music in which so many and such varied youthful spirits were blended. So great has been the musical development in the public schools during the last fifteen years, that one may expect that, within the next decade, music shall have become integrated into the life of the American people as a basic power for spiritual and social good. The following outline sets forth the basis upon which the University of Wisconsin will accept as many as four units in music for college admission. This outline includes both qualitative and quantitative standards.[14]

[13] Earhart, *op. cit.*, p. 404.

[14] For a somewhat similar course of study, see Pittsburgh Public Schools, *Bulletin* No. 9 (Cited in bibliography under Earhart).

Outline of Senior High-School Courses

Course I. History and Appreciation of Music

(Five periods per week—one year—one unit)

A non-technical presentation of those fundamentals of form and design essential for the intelligent listening to music together with a brief historical account of the development of music which will aid in giving perspective to musical understanding.

Type of desirable text:

Outlines of Musical History, Hamilton (Ditson) or
Standard History of Music, H. Cooke (Presser)

This course should consist of assigned reading, prepared topics, analysis of typical examples, class projects, musical participation, and much discriminative listening. To conduct this course successfully, there must be available for reference material similar to the following:

1. Grove's *Dictionary of Music,* 5 vols.
2. Hamilton, *Music Appreciation*
3. Scholes, *Listener's History of Music*
4. Scholes, *Listener's Guide to Music*
5. Parry, *The Evolution of the Art of Music*
6. Spaeth, *The Common Sense of Music*
7. Surette, *Music and Life*
8. Mason, *Beethoven and His Forerunners*
9. Mason, *Orchestral Instruments and What They Do*
10. Upton, *The Standard Concert Guide*
11. Upton, *The Standard Concert Repertory*
12. Upton, *The Standard Operas*
13. Buck, *The Scope of Music*
14. Goepp, *Symphonies and Their Meaning*—3 vols.
15. MacDowell, *Historical and Critical Essays*
16. Miller, *Education for the Needs of Life*
17. One musical periodical such as *Music and Youth,* or *Musical America,* or the *Musical Courier*

For purposes of musical illustration there must be an excellent phonograph and, if possible, a player piano, with an adequate supply of records, rolls, and scores.

Course II. Orchestra

(Laboratory type, five periods per week—1 year—½ unit.)

The basis for recognition of credit is:

1. Instrumentation such that constructive orchestral development is possible
2. Instructors with sufficient practical training to carry on such work satisfactorily

The following minimum instrumentation is essential: 2 first violins, 2 second violins, 1 viola, 1 cello, 1 bass, 1 flute, 1 clarinet, 1 oboe, 1 bassoon, 1 trumpet (or cornet), 1 trombone (valve or slide), 2 French horns, percussion (piano optional).

In augmenting this group, add first to the strings which may be greatly increased, paying attention, however, to see that violas, cellos, and basses are increased in proper proportion; then add second clarinet, second trumpet, second bassoon, second oboe, second and third trombones, third and fourth French horns, and second flute.

The music played by such a group may be simple but must be musically worth while. (See appended list of typical material.) Perfect intonation, good tone, accuracy of reading, and expressive performance are the ends sought. The above minimum instrumentation is sufficiently complete for the characteristic qualities of the various orchestral choirs to be realized, and on this basis the adequate performance of the literature of the symphony orchestra may be approximated.

Suggested Type of Repertoire

McConathy-Stock, *The Symphony Series* (Silver, Burdett & Co.)
Gluck, *Dance of the Happy Spirits*
Bach, *Air on the G String* (strings and wood-wind)
Handel, *Minuet from F Major Concerto*
Haydn, *Andante from Surprise Symphony*
Schumann, *Träumerei* (strings)
Grieg, *Norwegian Dance*
Tschaikowsky, *Song without Words*
Schubert, *Marche Militaire*
Rebmann-Clarke, *Beethoven Suite* (G. Schirmer), *Master Series for Young Orchestras*
Bagatelle, Op. 119, No. 5

Andante from the Piano Sonata, op. 14, No. 2
Minuet in G
Adagio from the Sextet, op. 87
Military March in C.

Willis Graded School Orchestra and Band Series
Haydn, *Minuet from E Flat Symphony*
Moszkowski, *Spanish Dance*
Grieg, *The Last Spring*
Raff, *Parting March from Leonore*
Rimsky-Korsakoff, *Song of India*

Laurel School Orchestra (Birchard)
Schumann, *The Album*
Godard, *In the Woods*
Olesen, *Norwegian Serenade*
Greig, *Matrosenlied*
Delibes, *Ethiopian Dance*

Bornschein, *Five Early Classics for String Orchestra* (Oliver Ditson & Co.)
Bach, *Prelude in C*
Campra, *Old French Gavotte*
Haydn, *Romance in E Flat*
Monsigny, *Rose and Colas*
Mozart, *Rondo in G*

Course III. Band

(Laboratory type, five periods per week—year—½ unit.)

In order that credit for band may be given, the following minimum instrumentation is necessary: 6 B flat clarinets, 1 flute and piccolo, 1 bassoon, 4 cornets or trumpets, 1 baritone, 2 trombones, 2 tubas—preferably 1 E flat and 1 BB flat, 2 French horns in F or E flat, and 2 percussion, with instruments added in the following order: 2 B flat clarinets, 2 additional French horns, 1 trombone, 1 E flat clarinet, 1 alto clarinet, 1 bass clarinet, 2 trombones and 4 saxophones—B flat, E flat, tenor, and baritone.

With such an instrumentation, music of a symphonic character is possible. Tone, intonation, accuracy, skill in reading, and expressive performance are the ends to be obtained. The following suggested list will aid in realizing the above:

Overtures

Schleppegrel, *Golden Sceptre*
Suppe, *Jolly Robber*
Werdt, *Northern Lights*
Keler-Bela, *Lustspiel*
Schubert, *Rosamunde*
Hadley, *Herod*

Suites and Ballets

German, *Three Dances from Henry VIII*
Luigini, *Ballet Egyptian*
Bizet, *L'Arlesienne*
Schubert, *Ballet Music "Rosamunde"*
Grieg, *Siguard Jorsalfar*
Delibes, *Sylvia Ballet*

Marches, waltzes, operatic selections, and novelties are to be used in the proper proportion, but they should be a means rather than an end.

Course IV. Theory and Harmony

(Five periods per week—2 years—2 units; no credit for the first year only.)

First Year: The course aims to provide the student with:

a. Theoretical knowledge of music symbols, terminology, intervals, key signatures, rhythms, and elementary chord structure, and a thorough knowledge of major and minor scales.

b. Ear training, sight singing, and dictation (laboratory work).

c. A knowledge of tone relationships with respect to rhythm, melody, harmony, and design.

Suggested text: *Music Notation and Terminology,* Gehrkens (Barnes).

It is expected that during the first year all essentials of theory will have been covered so that the actual study of harmony may commence with the beginning of the second year.

Second Year: The course should begin with simple triads and continue through cadences and sequences up to the dominant seventh chord.

Suggested text: *An Approach to Harmony,* McConathy, Embs, Howes & Fouser (Silver Burdett), or any standard text approaching the subject from the melodic point of view and using two voices on a staff.

The purpose of the course is to provide:

a. A stimulus for the creative impulses of the pupil, rather than to serve merely as musical grammar.

b. To develop a capacity for harmonic analysis essential for sound musicianship.

The work should consist of both paper and key-board application of all chords and progressions studied.

Course V. Choral Music

(Five periods per week—laboratory type—½ unit per year. Prerequisite: sight reading ability.)

This course contemplates serious choral study in small groups where it will be possible to pay attention to voice training and to the development of individual skill in singing. The material studied must be selected from standard choral literature and the course must be planned in such a manner that a systematic development of both skill and appreciation will result. In addition to the finished performance of typical examples of choral literature, opportunity should be provided for becoming acquainted with a wide range of choral literature such as can be found in the best octavo publications.

Applied Music

(A suggested procedure for assigning credit for applied music under outside teachers accredited by State Department of Public Instruction.)

Written application must be made in duplicate by the pupil with the countersignature of the parent, to the principal of the high school not later than the second week of the school year, requesting permission to take applied music for a specified amount of credit with a private teacher properly accredited by the State Department of Public Instruction. When approved by the principal, one copy of the application should be signed

and retained for the school office, the other copy signed and returned to the pupil, who will present the approved application to the accredited private instructor when registering with such instructor for work with credit.

The teacher shall submit to the principal, on a form provided by the school, a monthly report of the work done by the pupil. The following form is suggested:

A

APPLIED MUSIC REPORT

for month ending.....

Name of Pupil.....

Address .....

Subject ..... Yr. in H. S. .....

Date	*Old Material*	*New Material*	*Progress*	*Grade*
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Grade for Month.....

Remarks

Accepted ..... Signed .....

Principal

The parent or guardian shall fill out a monthly report on the following form:

B

PRACTICE REPORT

For month ending.....

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1						
2						
3						
4						
5						

I hereby certify that the above is a correct report covering the practice of .....

Signed.....
Parent or Guardian

These reports shall be filed in the office of the high-school principal after receiving his signature of acceptance.

At the close of each semester each pupil taking applied music for credit shall be examined by any person authorized by the State Department of Public Instruction who may call in for assistance any capable person in or outside of the city. The

examiner shall furnish the principal with a written report on the following form:

C

REPORT OF EXAMINER IN APPLIED MUSIC

Name of Pupil..... Date....
Address.....

Subject..... Yr. in H. S..... Grade....

Material Played..... Remarks.....

Signed.....
Examiner

(The examination should consist of technical exercises, at least one piece from a suggested list, at least one other piece [both memorized] and a selection for sight reading. The pupil should be judged on a basis of 50 points for technique, 30 points for interpretation, and 10 points for sight reading.)

One half-credit per school year should be given for one half-hour lesson a week with five hours of practice per week. One credit per school year shall be given for two half-hour lessons or one hour lesson per week with ten hours of practice per week.

Pupils taking applied music for credit, with accredited teachers must be duly enrolled high-school pupils at the time such outside music course is being pursued. The high-school authorities should encourage if not require such pupils also to take such courses as music appreciation, music history, or harmony within the school curriculum when such courses are given.

Each city system should adopt an outline of material suggested for use in applied music, and this should be approved by the State Department of Public Instruction.

The same rules governing absences shall apply as in the case of any regular high-school course. Illness shall be the only reason for receiving a make-up lesson.

Procedures in teaching music. In courses of the classroom type, it is a relatively simple problem to lay out a plan of procedure that is logical and educationally effective. In the courses of the rehearsal type, however, there is danger of adopting a "from day-to-day" policy which loses sight of the greater ultimate objectives of these important group activities and of isolating too greatly the elements which enter into this work. As Earhart says, "There is constant chance in all school music everywhere of a cleavage like this merely because the process of teaching music is complex. The children must use their voices; therefore voice training may become set off as a separate process. They must use their ears; hence a separate set of practices for ear training. They must feel rhythm; therefore the development of rhythmic feeling is sometimes begun as an independent process. They must make skips; hence interval drill. They must sing freely in various musical moods; therefore the singing of inspirational songs again as a separate feature. This list might be added to indefinitely."

It is obvious that if instruction is to be split up into many partial endeavors and the whole time to the subject is to be only an hour a week, some features will be unduly exploited and others will be unduly disregarded. In a large system of schools there will be found, too, teachers of different tendencies, some of whom will concentrate on one feature, some upon another. One instance is recalled of perfectly phenomenal work with hand signs. It was a third-grade class, but, as the term was just begun, the work was a review of second-grade work, where response to hand signs is especially drilled. The teacher's hand moved with lightning rapidity; it seemed almost beyond the capability of the human eye to follow it, yet the children responded with awe-inspiring infallibility. They sang instantaneously any tone of the scale in any conceivable relation as the teacher's hand indicated it, but the probability is that had a song of far simpler elements been placed before them in staff notation, to sing fluently, rhythmically, musically at sight, with syllables, they would have met defeat.

To attack the song directly, therefore, not only saves time but

leads to an educational result of quite different quality. It is true that unification can not be always quite complete; the attention must be turned specifically now to one musical element, now to another, for the moment. This is the reason, indeed, for attacking the complete musical expression itself first. If this is done, any element separated in later analysis from the song, can not be thought of in unrelated fashion as it must be when approached from its own isolated base. There should be constant endeavor, nevertheless, to unify the various processes. In a large system of schools they are bound to draw apart, for the reasons stated above, rather than draw together, unless the utmost effort toward unification is made.[15]

In the general course in music of the junior high school the aim should be to present the subject from as many interesting angles as possible (see objectives of secondary-school music). This policy is likely to result in a smattering of all kinds of musical activity and with little organization and purpose. The teacher should lay out the work to be accomplished for the year and then, through detailed lesson plans worked out for some weeks in advance, see to it that the various objectives are being attained.

The improvement of skill and the acquisition of knowledge should receive first consideration; therefore, each class period should be built around some well conceived and properly organized work project. The most tedious of drills and other necessary routine incident to the accomplishment of skill may be made attractive by a resourceful teacher. The ability to perform music of an increasingly higher type is dependent upon a continuous improvement in technical skill. The disappointing absence of reading ability to be found in many senior high schools in school systems having well-organized elementary-school music is doubtless due to the neglect of this type of work in the seventh, eighth, and ninth grades.

The project method may be employed to advantage in

[15] *Op. cit.*, pp. 390-391.

the development of special programs for classroom presentation and for an occasional assembly period. The programs may consist of performance by the children; of phonograph and player-piano material presented for the development of appreciation; of pageants of musical history; of material developed for special day celebrations; of operettas, cantatas, etc. All such projects must articulate with the general plan of work and not be used simply as a diversion. All material used must be musically worth while and projects like that of preparing an operetta must not overshadow the other work-projects of the class period.[16]

Judging the teacher and his work. Personality has been estimated as amounting to as much as sixty per cent in the success of the teacher of music. A rare combination of earnestness and a certain buoyancy of character are required to produce those qualities of dynamic leadership that lift young people out of the casual moods of the hour into the more rarefied atmosphere of musical inspiration. Besides, the teacher must possess powers of organization and a capacity for carrying on consecutive work which ordinarily do not exist in one possessing these qualities.

The training and the general musical background of the teachers is of almost equal importance. The demands of the North Central Association are that all teachers in accredited schools possess a degree. As music has occupied a somewhat precarious position in curricula and as most musical training is acquired in conservatories or from private teachers, schools cannot at present conform with this demand. The best qualified teachers are frequently those who lack academic training, and likewise many persons who possess the necessary academic background are deficient in both musicianship and personality. The practice of overstressing academic attainment and undervaluing

[16] See also the preceding sections of this chapter for discussions of procedures.

musical experience and training is a mistaken one. Above all things the acceptance of an individual with a Bachelor of Arts degree and a meager musical training of a fragmentary summer session or two is not only absurd but also unfair to the subject of music. Colleges and universities are gradually correcting this evil, and eventually there will be available a supply of adequately trained teachers of music.

The teacher of music should have a broadly developed understanding of the social significance of the arts. Music is essentially a social art and, when the broader social implications are understood, may be made to yield large returns both to school and community. The teacher of music who fails to develop a spirit of camaraderie and group feeling in the musical groups under his direction, and who fails to develop in them the impulse to serve the school and the community is falling short in his work. The supervisor should, therefore, watch constantly for manifestations of the social-service impulse. He should watch and be ready to suppress the outcropping of the spirit of undesirable individualism which too frequently is characteristic of the musical temperament. The coöperative spirit and a consciousness of the power of music to correlate with the other subjects in the curriculum and the life of a school community are basic factors in the development of the music program.

Among the other points which may be checked in connection with the music work are: (1) organizing ability in connection with classes; (2) power of laying out plans far in advance and the following of such plans; (3) ability to make provision for individual differences in pupils; and (4) capacity for keeping equipment and other physical arrangements in good condition. Miss Borge's rating plan for the judging of school music teaching includes specific items under the headings which have already been mentioned:

Some Principles to Be Considered in Measuring and Evaluating School Music Teaching

I. Teacher
   1. Personality (Measures 60 per cent of success)
      Temperament, attitude, sympathy, initiative
   2. Training
      Knowledge, voice—speaking and singing

II. Teaching Technique
   1. Plans—Organization of Material
      (*a*) For year, period, smaller units
      (*b*) How do they articulate?
      (*c*) Aims or objectives of each unit
      (*d*) Are they practicable by actual test?
      (*e*) Are they balanced as to variety of approach, content (work for ear, eye, voice, and hand), intellectual, emotional, and physical appeal?
      (*f*) Provision made for projects: correlation
      (*g*) Definite aims outlined and minimum requirements set
      (*h*) Is appreciation listed separately or as part of each performance?
   2. Classroom Management
      (*a*) Individual work, sufficient and adapted to individual needs and differences
      (*b*) Is teacher one of the classroom group?
      (*c*) Does she create an environment conducive to best efforts?
      (*d*) Are mechanical features routinized so as to allow time for more important things and form a firm foundation for appreciative work?
      (*e*) Is drill procedure persisted in so as to produce automatic response?
      (*f*) Is drill concentrated on places that *need* it (*cf.* spelling and arithmetic methods)?

III. Measurable Results
   1. Quantitative
      (*a*) Adherence to outlines and fulfillment of plans, using as a norm the outline of the National Research Council of Music Education.
      (*b*) Large repertory for singing and listening

(*c*) Appreciable decrease of pitch and rhythm deficients; use of available tests and measurements

2. Qualitative
   (*a*) Sufficient repertory of songs, drill, and appreciation material of appropriate character and highest quality
   (*b*) Æsthetic response of children—expression of beauty and sentiment appropriate to song by means of (1) tone quality, (2) intelligent phrasing, (3) enunciation, (4) manifestations of enjoyment
   (*c*) Growth in appreciation as indicated by disposition to select for himself the best in his experience
3. Social
   (*a*) Disposition of child to participate in extracurricular (school) and extramural (home, church, civic) activities
   (*b*) Ability of teacher to use music as a correlating center of school activities [17]

The most valuable product of secondary-school music is as yet unmeasurable and baffles the analyst; it is that spiritual benefit which is believed to result from hearing and participating in the production of great music. Whereas many secondary-school subjects deal primarily with reasoning processes, music is constantly impinging itself upon the emotions of the individual. Since the adolescent is so largely a creature of emotion, special values come to youth through the medium of beautiful music.

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[17] Aagot Borge, "Further Steps in the Training of the Supervisor," *Journal of Proceedings* of the Nineteenth Annual Meeting of the Music Supervisors' National Conference, 1926, pp. 164-170. The passage here quoted is from pp. 169-170.

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CHAPTER XIII

THE SUPERVISION OF A HEALTH PROGRAM

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"Health Education can be promoted only by emphasizing all aspects of health—physical, mental, social, moral. The teacher of health should look for normal development of the child from all of these points of view. The ideal of health is not mere freedom from obvious deformities and pathological symptoms. It is the realization of the highest physical, mental, and spiritual possibilities of the individual."[1]

For secondary schools to live up to the letter and the spirit of this definition requires a far-reaching program rather than a subject in the curriculum, a supervision of individual health development rather than the mere teaching of hygiene, and, because of its scope, the supervision is fraught with many and varied duties.

The program in health education. In analyzing a program of health education in terms of *purpose*, it resolves into:

1. *Protection,* which provides for health examinations; for safeguarding against communicable disease, as through immunization; and for safe environment, through suitable buildings, kept in safe and sanitary condition.

[1] *Health Education: A Program of Public Schools and Teacher Training Institutions*, Report of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association with the coöperation of the Technical Committee of Twenty-seven, p. 23.

2. *Correction of health handicaps,* which includes the home follow-up of the health examination, to secure removal of defects; and adjustments of program, to assist the child to correct his weaknesses, or to prevent further deterioration.
3. *Promotion of health and well-being,* offering as of first importance the plan of instruction aiming to develop those habits, attitudes, and knowledges that produce behavior resulting in health, such as physical-education activities, well-planned lunches, and the hygienic arrangement of the school day, planned to prevent strain, overcrowding, and overfatigue.

In terms of *administration,* this program can be expressed thus:

1. *Health service* (children, teachers, custodians, and janitors)
   Health examinations
   Correction of defects
   Protection against communicable disease
   School sanitation and hygiene, including food service
   Hygiene of instruction
   Safety and first aid provisions
2. *Health education,* the sum of experiences, in school and out, which favorably influence the habits and attitudes and knowledge a child acquires, which make for health, mental and social, as well as physical. Such training necessitates:
   Definite periods for specific health teaching
   Correlated and indirect teaching in other subjects, and in situations and happenings outside of the hygiene class
   Home coöperation
   Training and supervision of teachers
3. *Physical education* activities, as: general and corrective gymnastics, athletics, games, dancing, hiking, etc.

1. *Responsibility for a health program.* Responsibility for such a program must necessarily be divided among specialists, including physician, nurse, custodian of the building, teacher of hygiene or health instruction, director of the lunchroom, program advisers, general supervisors, deans, and teachers of basic subjects allied to health education. Supervision of such a program does not neces-

sitate expert knowledge in all of these fields, but it does require an appreciation of values of the vital contributions to the health needs of secondary-school children. Such supervision can come successfully from the administration staff or from any of the departments involved, but in order to be successful there must be (*a*) a natural interest; (*b*) time; (*c*) coöperative ability; (*d*) sufficient background in related subjects to insure respect from all departments involved, and (*e*) up-to-date, scientifically correct knowledge of all subject matter directly connected with healthful living. There are two possibilities in setting up this program of supervision: (*a*) a supervisor who is not a member of the teaching or administrative staff of the school; and (*b*) a supervisor or health counselor [2] who is a member of school staff. If the first set-up is followed, it would still be necessary for the supervisor from the outside to depend upon one person on the inside to carry out the coördinating duties of a program which reaches into so many different departments of the school. These duties would be the same, whether the responsibility for laying the plans rested with an outside supervisor or with the inside health counselor. For the sake of simplicity, then, we will confine this discussion to the duties of the person within the school staff who is directly responsible to the principal for the success of the health program, either with or without guidance from the outside. A health counselor needs a

[2] In October, 1925, Dr. Edna W. Bailey, Associate Director of Student Teaching, University of California, Berkeley, as Field Investigator for the American Child Health Association, visited eight secondary schools in the Middle West. These schools, as members of a country-wide study of secondary school health programs, had previously submitted reports to the American Child Health Association. One result of this field work was the recommendation by Dr. Bailey of one member of the faculty to be responsible for the health program, with the suggested name of health counselor. A report of this study is published by this Association under the name "Health Trends in Secondary Education."

committee made up of a representative from each of the departments most concerned. Student representation on this health program committee should also be seriously considered.

2. *The duties of the health counselor.* No matter from which department the health counselor is selected, there are certain general duties that can be taken care of only by the counselor, and certain specific duties that differ according to the department to which the counselor belongs. As an example of a general duty, there is the responsibility for the proper distribution of the facts disclosed by the physical and medical examinations of the pupils and entered upon the records. The time and labor of the examinations are comparatively useless unless the findings are employed to the greatest advantage to the pupils and teachers. If the records are filed away and never consulted, they are a waste of time. If only the physician and the nurse see them, the two people who have only a short personal contact with the pupils during the examination and with a small group of students after the examination is made, the benefits are slight. If only the physical-education teachers are added to the list of those who have easy access to these records, the rest of the teaching force is deprived of an opportunity for a complete understanding of their pupils. To have such records open for general inspection by the teaching force is, however, an unfair mistake from the student angle, nor can all teachers give time to hunt out the necessary information which is often recorded in abbreviated and technical terms. It is, therefore, the duty of the health counselor to have complete charge of all physical-examination data and to make the greatest possible use of the information within the data. The specific duties, on the other hand, lie within the field of the department to which the health counselor belonged. For example, if it were the medical or nursing staff, part time should be

given to examinations, medical advice, first aid, teaching of first aid or home nursing, follow-up work, etc.; if from the physical-education department, part time should be given to the recreational and big-muscle activity program. This same specific illustration can be carried into the departments of science, home economics, nutrition, or administration.

Under the heading of *Protection,* the health counselor should be responsible for the administration of the physical examinations. This does not mean responsibility in the technique of giving or interpreting the examinations, but rather the administrative arrangements for them and for the proper use of the findings. It may include assistance to the medical and nursing staff during the examinations. It should be his duty to watch for signs of contagion and to aid immunization by the formation of a scientific attitude of mind among pupils toward recent medical developments. In secondary education right attitudes cannot be formed without knowledge, and such a subject as immunization affords an opportunity for an application of modern theories of education with a clear-cut demonstration of results. For instance, if no pupils in a given school even try to evade vaccination but voluntarily seek it, we have a proof that they not only have some knowledge on the subject but also that they recognize and admit the truth of what they have been taught, and, furthermore, are ready to avail themselves of this opportunity for immunization. Unfortunately, every health practice is not so easily demonstrable.

If new buildings are being planned, the health counselor should be able either to give advice concerning construction that fosters the health of the people who will occupy the building or to refer the architects to scientific source material. To help in the best possible use of facilities provided and in keeping the plant in a safe and sanitary con-

dition, the duties should lead through the administrative to the janitorial staff.

Under the head of *Correction,* the path leads to the home, either by way of the pupil, the nurse, or the family physician, in order to secure the removal of defects. It also leads directly within the school to those responsible for the pupil's program. It is of no avail for the physical-education teacher to give rest instead of exercise to an anæmic pupil or to one with a heart difficulty, if the program is so arranged that flights of stairs must frequently be climbed or long hallways quickly covered between recitations, or, if during the process of being fitted to glasses, there is no let up in the amount of required reading. Unless the way is made easy for such adjustments by some interested and authoritative person, they are not likely to be made. A good test of the health-mindedness of a group of teachers is their willingness to go to the trouble of making such adjustments.

Under *Promotion* comes the greatest opportunity for the health counselor to make his program function. The first task is to analyze, evaluate, and coördinate the possible contributions to health knowledge, practices, and ideals which can be made a part of the teaching of the subjects of the high-school curricular and extracurricular activities, and to see that those contributions (*a*) bear some interrelation as to time of appearance, (*b*) are not contradictory, (*c*) do not overlap unnecessarily, and (*d*) result in a balanced block of instruction. After this has been done, even in a most approved way and with success, there still remains a residue of fact knowledge for the health counselor to give, sometimes to large groups, sometimes to small groups, and often to individuals. From the standpoint of administration, a dean often makes an excellent health counselor but not without at least the first four points already listed as necessary in successful supervision of a

health program. For the giving of fact knowledge, it is possible to delegate to another member of the staff the teaching of subject matter, which requires the exact scientific knowledge of healthful living. If, then, for administrative reasons, some one is appointed as health counselor who has not the specific training that enables him to give this important kernel of the program, it is far better to delegate it to some one who is fitted for it.

Under *Promotion* are listed physical-education activities. If the health counselor happens to be a member of this department, there will be the best possible use of these activities in relation to the whole health program. If, however, he is not a physical-education expert, it will be his duty to acquaint himself with the underlying principles of the activity program and help these activities through interest and coöperation, to promote healthful living for all pupils. It is difficult with the oftentimes overcrowded physical-education classes in high schools, for the teacher to be aware of the pupils who need safeguarding. The health counselor could be of great assistance by keeping the physical-education teachers informed of special cases, and again, physical-education teachers are so busy with extraschool duties that some one who could act as a coordinator between them and the other parts of the school health program would add to the efficiency of the physical-education department. The school lunch is also a vital part of the promotion possibilities of secondary schools. Again, if the health counselor is selected from the home-economics department, or has a nutritionist's professional training, this part of the program will be well carried out. If he is not an expert in this field, it is clearly his duty to place a well-qualified person in charge of the lunch room. But success in having the right kind of food served does not cover the problem; it is not solved until advantage is taken of the general educational value of the situation. This is

another duty of the health counselor. He must provide the training through doing which is gained in the daily selection of a balanced meal, by the daily social adjustments and the practice of good table manners in a well-ordered, hygienic school lunchroom.

The last item under *Promotion* is the "hygienic arrangement of the school day" which is another recognition of the need for individual health supervision. The school day should be balanced between study, recitation, recreation, lunch period, and rest. The work of the health counselor might possibly overlap here with that of the dean's, house principal's, or program adviser's, but there is a clear-cut duty which no one but the health counselor is likely to perform in the case of all students, particularly those who show by their physical examination the need for caution.

To summarize, the duties of the health counselor are connected with every pupil, with the physician, nurse, parent, program adviser, dean, teachers of basic and allied subjects (for example, all sciences, civics, history, English, physical education, home economics), the lunchroom director, extracurriculum director, custodian of building, school architect, board of health, and community clinics. In the last analysis, the health counselor is directly responsible to the principal for the results of this coördinating and specific program.

By the time a health program has become an integral part of a school it should not be in great evidence. To quote from a report made by Dr. Edna Bailey:

> Many changes in the present program, as compared to the one reported last year, were found. These usually indicated a tendency to slough off "health stunts" and settle down to a program so thoroughly integrated with the general school program that very few procedures stand out in the mind of teachers or pupils as "health measures." *The sounder the program, the less it seems to be in evidence.*

Some changes were due to change in personnel of the teaching or administrative staff. I consider it distinctly significant that these changes were nowhere of major importance. In one school, a complete change of staff occurred, and yet the whole program, with the exception of the teaching of one course, was in operation and distinctly recognizable as the one reported. This seems to me to indicate emphatically that a secondary-school health program is a whole-school, whole-community endeavor; not a one-man or even a one-department affair.[3]

Aims of health education. In 1925 there appeared a report of unusual significance, because it contained the combined results of the best scientific investigation in the educational and the medical professions and showed their relation to health education. Since this report was published, it has been used as a basis for thinking, writing, and teaching within this field.[4] This report sets up the following comprehensive aims:

1. To instruct children and youth so that they will conserve and improve their own health.
2. To establish in them the habits and principles of living which throughout their school life, and in later years, will assure that abundant vigor and vitality required for the greatest possible happiness and service in personal, family, and community life.
3. To influence parents and other adults, through the health-education program for children, to adopt better habits and attitudes, so that the school may become an effective agency for the promotion of the social aspects of health education in the family and community as well as in the school itself.
4. To improve the individual and community life of the future; to insure a better second generation and a still better third generation—a healthier and fitter nation and race.

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[3] "Health Trends in Secondary Education" (American Child Health Association, 370 Seventh Ave., New York City).

[4] *Health Education: A Program for Public Schools and Teacher Training Institutions*, Report of the Joint Committee on Health Problems in Education, 1925.

The constructive emphasis in these aims is a significant guide to the teacher who never loses sight of his goals. In our analysis of the program into protection, correction, and promotion, each of these four aims must be observed as constant guide posts. In order to do this, one should conduct an activity analysis of adults' needs for health knowledge. Farrand has done this in an article entitled "What Should the Educated Person Know About Health—a Health Decalogue," and catalogues as follows the needs for health knowledge of an educated person.[5] He finds that such a person should:

1. Know the physiological and anatomical bases for sound health habits.
2. Know the types and amounts and proportions of the various food elements essential to the proper nutrition of the body.
3. Have an acquaintance with the principles of normal mental action and the conditions underlying the more common variations from normal states of mind.
4. Have a general understanding of the sex instinct in man, the stages of its development, its normal expression, and the values and penalties attaching to the perverted expression of that instinct.
5. Have a knowledge of the factors determining infection and resistance and of the principles of artificial immunization in the case of certain of the common infectious diseases.
6. Have enough knowledge of the causes and prevention of the degenerative diseases to offer a prospect of passing through middle life without a breakdown.
7. Know and therefore be armed against health hazards lurking in the environment.
8. Appreciate the necessity for frequent medical and dental examinations.
9. Have an intelligent basis for choosing wisely his medical advisers and for realizing that the modern practice of medicine is grounded on science and not on mystery, fancy, and tradition.
10. Have a knowledge of the important public health problems facing the community, of the methods of attacking those prob-

[5] Livingston Farrand, *Child Health Bulletin*, September, 1926.

lems, and of the results to be expected from intelligent community action in the public health field.

It is, however, conceivable that a pupil could pass perfectly an information test on all these points and still be a failure in his practical applications. The establishment of the habits and principles of living, as set forth by the Joint Committee in its second aim, must go hand in hand with knowledge and throws the responsibility in two directions: (1) to the school environment, and (2) to the pupil's personal habits during all the twenty-four hours of each day. The importance of these two aspects of a health program is now commonly recognized.

Although the knowledge needs in such a list as Farrand's are common to all adults, there is a variation according to environment and heredity. In order to apply this analysis intelligently a survey of local conditions is necessary, because environment varies from place to place.

Sequence of courses. Effort toward applying modern educational methods to health education has been centered for the most part upon the first six grades. In order to build upon a fairly firm foundation in our consideration of the subject in secondary education, we shall take it for granted that when a child enters the junior high school he has received the proper amount of assistance in the formation of health habits and attitudes and the acquisition of whatever knowledge he needed to enter intelligently into such a program. We shall also assume that he has not only been encouraged to practice good habits but has also been given opportunities within the school to make some of these habits automatic, and, further, to show evidence of extraschool health practices. As a working basis, let us assume that he at least knows what his right responses are toward:[6]

[6] "Suggestions for a Health Program in the Junior and Senior High School Grades," New Jersey State Board of Education, p. 5.

(*a*) a clean skin
(*b*) the proper use of clothing
(*c*) the selection and use of foods
(*d*) clean teeth, mouth, and nose
(*e*) the use of fresh air and sunshine
(*f*) work, exercise, relaxation, sleep
(*g*) the elimination of waste
(*h*) use of sight and hearing
(*i*) correct body mechanics
(*j*) provisions for the safety of the body
(*k*) expressions of emotion
(*l*) the body as an efficient machine
(*m*) contributions of service to maintain and develop desirable health conditions in the home, school, and community.

Up to this point in the educational program, the child has been responsible to one teacher for the greater part of the school day and it has been fairly easy for that teacher, through constant personal observation, to influence the habits and attitudes of each child. It is even possible for this teacher to keep a fairly accurate check on extra-school habits and, up to the secondary-school age, the child is not likely to resent such checks if he is rightly guided. But in the junior high school the whole régime changes and other methods for the continuance of health practices, or the formation of new ones, must be planned. This is the proper time to lay the scientific foundations upon which the child may begin to reason for himself concerning health practices. "In the intermediate grades, the first task is to answer the 'why' of these health habits and then year by year to expand the knowledge of the child. The information material should be expanded with the natural interests of the child, to furnish the reasons which underlie the development of proper habits."[7] A course labeled *health* or *hygiene* is not likely to be greeted with enthusiasm, whether because it has no natural interest for the

[7] C. E. Turner and G. B. Collins, *Health* (D. C. Heath & Co., 1926), Preface.

junior high-school pupil or whether it is because such courses are in ill repute because of previous failures, cannot be said, but the fact remains. General science is a mine of wealth to fall back upon; it is the best approach, and can lead toward any and all health objectives. The first of five aims, listed in order of importance, in a junior high-school course of study in general science for the schools of San Jose, California,[8] reads:

To acquaint the child with the elementary laws of nature necessary for the maintenance of his own and his community's health.

The report of the Commission on the Reorganization of Secondary Education[9] gives an excellent presentation of the reasons for laying the emphasis of health education within the science courses. The following sequence of courses is taken from this report and needs no further comment:

A. The Junior-Senior High School—*Seventh* or *Eighth Year:* Five periods a week; or both years with three periods a week in each year—General science, including hygiene.

Ninth Year: Biological science, including hygiene; courses may consist of general biology, botany, or zoölogy

Tenth Year, Eleventh Year, Twelfth Year: Differentiated elective courses in sufficient number to meet special needs and interests as follows:

(*a*) Chemistry: General chemistry, and chemistry specialized for various curriculum needs, such as household chemistry, industrial chemistry, etc.

(*b*) Physics: General physics; and physics specialized for various curriculum needs, such as physics of the home, industrial physics, etc.

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[8] "General Science: A Course of Study Outline for the Junior High Schools" (San Jose City Schools and San Jose State Teachers College Training School).

[9] "Reorganization of Science in Secondary Schools," a report of the Commission on the Reorganization of Secondary Education, appointed by the National Education Association, United States Bureau of Education.

(*c*) General geography, or physiography.
(*d*) Advanced biological sciences.

B. The Large Comprehensive Four-Year High School—The conditions usually prevailing in these schools make possible a wide differentiation of science courses, since there are likely to be enough pupils with special interests to constitute adequate classes in differentiated science courses. In such four-year high schools the following plan is recommended:

First Year: General science, including hygiene
Second Year: Biological science, including hygiene; courses may consist of general biology, botany, or zoölogy
Third and *Fourth Year:* Differentiated elective courses to meet special needs and interests as follows:

(*a*) Chemistry: General chemistry, and chemistry specialized for various curriculum needs, such as household chemistry, industrial chemistry, etc.
(*b*) Physics: General physics; and physics specialized for various curriculum needs, such as physics of the home, industrial physics, etc.
(*c*) General geography, or physiography.
(*d*) Advanced biological sciences.

C. Four-Year High School of Medium Size—*First Year:* General science, including hygiene

Second Year: Biological science, including hygiene; courses may consist of general biology, botany, or zoölogy
Third Year: Chemistry, with emphasis on the home, farm, and industries
Fourth Year: Physics, with emphasis on the home, farm, and industries, general geography or physiography, or advanced biological sciences

D. Small High School—*First Year:* General science, including hygiene

Second Year: Biological science, including hygiene; courses may consist of general biology, botany, or zoölogy
Third and *Fourth Years:* Elective chemistry and physics. In the small high school it is desirable to alternate the courses in chemistry and physics in successive years.

Using the subject matter of such a sequence of courses as the core, a health counselor could analyze the subject matter of all other basic and contributing subjects for the purpose of building a unified block, eliminating duplications, planning for genuine correlation, and avoiding contradictions. For instance, are the same facts about chemistry of foods being taught by the science and home-economics departments at the same school level and on the same intelligence level? In some cases we find the vital part of biology, its relation to life processes, is left to the teacher of physical education to be given to the pupils in "health talks." This procedure is likely to result in a mass of unrelated subject matter which leads to confusion and a natural lack of interest.

The health counselor is responsible for holding group conferences, often under club organizations and often individually, in order to make the personal application of the knowledge and interests of the problems under discussion. In general, the trend of these group or club topics seems to follow natural age interests if they progress in the following sequence of health practices: Grades I-VI, personal; Grades VII-IX, school and community; Grades X-XII, civic significance through individual, home, community, and state. As personal hygiene is relegated to the early grades, one cannot assume that all good personal health habits are established and therefore need no more attention. One small boy comes to mind who was a model of health behavior in his elementary-school career and all of whose squares on his health charts were carefully and honestly checked, but as soon as he was thrown upon his own responsibility in the junior high school, these habits completely broke down.

The selection of content. The New Jersey Department of Public Instruction emphasizes the desirability of having every teacher develop knowledge and judgment with re-

gard to thrift, honesty, self-control, safety, and health, as well as with regard to her own special subject. In part, it relates:

> These objectives cannot be adequately realized by limiting instruction in them to a small part of the day. They must constantly be kept in mind by the teacher in connection with all subjects and all schoolroom activities. Only through constant reiteration of the importance of each in all situations as they occur in the schoolroom will they become an integral part of the child's life and consciousness.[10]

Exact determination of the nature of the knowledge and skill which one may expect to find within the different subjects is necessary, and, to this end, Miss Dolfinger's classification of the general and specific contributors is given:

Basic Subjects:

The arbitrary term, *basic subjects,* denotes science subjects which contribute principles and applications to help pupils make decisions in everyday life, such as:

Botany
Zoölogy
Bacteriology
Physiology
Physics
Chemistry
Mathematics

Specific Subjects:

Subjects which provide skills through which the applications of principles taught in basic subjects may be applied, as:

Physical Education
First Aid
Budget-Making
Personal, School, and Community Hygiene (applied)

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10 "Suggestions for a Health Program in the Junior and Senior High School Grades" (New Jersey State Department of Education), p. 60.

CONTRIBUTORY SUBJECTS:

Not health subjects, but put into curriculum for entirely different purposes. They may have health as one of their many objectives, as:

Home Economics

They may provide interest and avocation. Therefore, they are closely connected with mental hygiene which is an important part of health education, as:

English
Fine Arts
Manual Arts

They may throw historical light on origins of present-day health knowledge, as:

History
Literature

They may reveal important knowledge concerning sources of our life supplies and the mechanics for administering them, as:

Geography
Civics

While the Social Studies (History, Civics, Geography) doubtless contain some basic knowledge, and Home Economics much specific health instruction, these are probably best classified as contributory courses.[11]

There are two stumblingblocks in the selection of suitable material from these various courses to make up a unified block of knowledge and skills in health: (1) it is impossible for all pupils to take all courses; and (2) the variations in combination of courses are myriad. Some one must first study the program of every pupil from the angle of this health unit. The weak spots once found should be strengthened by the health counselor, even to the point of providing the missing subject matter, so far as it is essential to the carrying on of a health program. This does

[11] Prepared by Miss Emma Dolfinger, late Director of the Division of Health, American Child Health Association.

not mean that a health counselor must be an expert in every subject, but that he should be able to guide pupils to the proper teachers and reference materials, in order to make up what the pupil loses because of his particular program.

This counselor must study the possibilities of the distribution of the "knowledge-attitude" material throughout the courses offered in the school, with a view to placing each item of knowledge in the "subject" where it logically belongs. An analysis should be made for each item disclosed, that is, where do the *facts* belong, in what science or social studies course, where are the *skills* taught, in physical education, home economics, or music? Where can the *attitudes* be reënforced, that is, in English, psychology, or social economics? On this basis should be built up (1) the specific health courses; (2) the basic science courses; and (3) the contributory health courses. Such a placement will recognize, however, that while the facts about digestion and assimilation, for example, belong in physiology or biology; that while skills in care and preparation of foods, as well as attitudes towards eating things not fancied, are the province of home economics, and so on, nevertheless, good teaching will sometimes provide for the acquisition of skills or knowledge in the department of the specialist best fitted to give it. It is necessary also to see that every child gets the irreducible minimum of instruction to insure both acceptable behavior and sound information upon points that may affect well-being. Theoretically, this is easy enough in the small high school with few elective subjects, but in very large, highly diversified high schools it is not easy.

In the selection of content in basic subjects care should be exercised also to scrutinize alleged factual statements about health. One should ask: (1) Is there a difference of opinion? (2) Are the statements adequate? (3) Are they

exaggerated? (4) Are they scientifically correct or are the pupils listening to teacher prejudices rather than to scientific information? The following examples are given in explanation:[12]

A. "The longer the food is in the mouth, the shorter time it is in the stomach." No such definite quantitative relationship has as yet been established.

"Three good meals a day is the best number." Some healthy people eat two, others more than three. Which number is best for a certain individual is not definitely known.

"Drinking cold water at bedtime and the first thing in the morning encourages intestinal action." This practice is quite generally claimed to be helpful but lacks a basis in physiological fact. To teach it, however, probably does more good than harm.

B. "We should not eat too many sweets—too much candy." The question naturally arises, what are "too many"; what is "too much"?

"Coarse foods are necessary for health" should be qualified by a statement of the relative amount and kind of coarseness.

"We should never read in insufficient light" demands that "insufficient" be defined.

C. "Germs lurk in dust and dirt" is an exaggerated idea of the bacteriological danger from dust which still persists. Chapin, Jordan, and Winslow furnish evidence that pathogenic bacteria in dry dust are the exception rather than the rule.

D. "An apple a day keeps the doctor away." It takes more than an apple to do this!

"Milk fat, cream, and butter, are the most important kinds of fat." The importance of cod liver oil for Vitamins A and D, and of vegetable fats for E makes this statement inaccurate, or at least exaggerated.

"Head up, chin in, chest up, shoulders back" are definitely inaccurate directions to give, because they usually result in a tense posture and an exaggerated lumbar curve.

The specific subject of physical education should furnish skills by which exercise may play its proper part in health-

[12] Ruth Strang, *Subject Matter in Health Education* (Bureau of Publication, Teachers College, Columbia University, 1926), pp. 74, 75, and 76.

ful living. There are, of course, other objectives in physical education, but our concern here is with whatever contributes to health through attitudes, interests, and skills gained from the big muscle activities. In the selection of subject matter and in the method of instruction of the activities selected, the law of learning which concerns itself with interest must always be considered. Unless these activities are recreational and produce pleasure in the doing, they lose the major part, if not the whole, of their efficacy. This pleasure may be an immediate satisfaction, such as the emotional excitement of a game or accomplishment of skill or the general feeling of physical fitness from muscular exertion and its physiological results. It may also be the satisfaction which comes from progress made in the correction of a physical defect. Such a satisfaction is largely remote and connected with future accomplishments. This latter type of satisfaction is what must be built upon in all work connected with the correction of defects. Equal in importance with interest are individual differences; to administer the same sort of exercise to a group of pupils just because it is administratively convenient for this particular section of pupils to be together at a certain time is indefensible. It is equally indefensible to give them all one type of exercise because the instructor was so trained. As opposed to this practice, consider that of a secondary school that has the services of a man and a woman physician to make satisfactory thorough yearly examinations (not at the rate of thirty pupils per hour) including follow-up service, if necessary, and supplemented by motor-ability tests given by the physical-education department. On the basis of these findings, together with pertinent facts disclosed by mental, social, and psychological tests, a program of physical activity is formulated in accordance with the natural preferences as well as needs of the individual pupils. Such a plan presupposes

many things, such as a coöperative faculty, a sufficient number of physical-education teachers to take care of the students in small groups when necessary, a plant arranged for this possibility, and finally a community educated to the importance of health education. This plan also presupposes that the school will consider a school athletic team as a natural outgrowth of an all-inclusive development program rather than as the first consideration.

In selecting skills leading to specific games that can be enjoyed in leisure time, there should be consideration of personal, economic, and community possibilities. To teach tennis strokes to children who in all likelihood will never see a tennis court is obviously ridiculous. But in these days of municipal playgrounds with their tennis courts, golf courses, and camps and out-of-door cooking facilities, there is a great opportunity for training for the use of leisure time. Interest in the particular recreation that the skill leads to is essential for the carry-over into voluntary and lasting out-of-school and adult recreation. Furthermore, as Hetherington contends, "play must be considered (1) as the developmental source of health, and (2) as a means of teaching health.[13]

One of the strongest forms of motivation for healthful living is ability in physical accomplishments, and this fact is often used to prove (1) that physical education is health education and (2) that the physical-education teacher is the proper person to teach health education. Belief in the statement that physical education is thus inclusive has led to a neglect of nutrition, rest, removal of defects, and many other equally important items of the health program. Throwing the responsibility of teaching hygiene

[13] Clark W. Hetherington, "Play Spaces as Health Education Equipment," Part II, *Transactions* of the Third Annual Meeting of the American Child Health Association, 1926 (American Health Congress Series, Vol. 3), pp. 93-101.

upon the physical-education teacher has often resulted disastrously and for very good reasons. These teachers studied physical education because they preferred an activity program, and all of the time of their professional training was given to it. The fact that this preparation included instruction in hygiene, did not prepare them to teach it, any more than physical education when taken by the general college student fits him to teach junior high-school physical education. These conditions do not relieve such teachers of the large responsibility in the instructional side of the program. Theirs is the great opportunity for the incidental method of teaching, and, in order to take advantage of this constructively, they should (1) know at what school level health facts are coming to pupils; (2) see to it that the instructors of these facts make use of the current interest of the pupils in physical accomplishments; (3) drive home at every natural opportunity the health facts coming from all sources; and (4) use the frequent opportunities for influencing attitudes toward health—physical, mental, and social—by means of the keeping fit process. The fact that to be successful a health program must be all-pervading is a reason for not asking that all the health teaching be kept within the physical-education department.

Home economics, the generally accepted aim of which is to improve living conditions in the home and community for the fullest development of the family and its members, is an important contributory subject in the health program. The relationship of this subject to health education is summarized in the following paragraphs:

1. Home economics is a vital subject in the health-education program through its food and nutrition, clothing, housing, child care and training, and family relationship units.
2. This course can function best in the health-education pro-

gram when opportunities are presented for it to be vitalized through activities of the school, the home, and a home management cottage or apartment.

3. A home-economics-trained person should be held responsible at all times for the nutrition program of the school. This may be directed by a nutritionist, the home-economics teacher, or the cafeteria director (if adequately trained).
4. The school lunchroom is and should be a vital factor in the school health program and this idea should be fostered at all times by a trained dietitian. At no time should the function of the school-lunch department be exploited for the purpose of making money.
5. The health-education work that permeates the home-economics course should be a part of the boys' school training as well as the girls'. Provision should be made for the boys to have an opportunity to take this work, including nutrition, food selection, care and selection of clothing, child care and training, budgets, and the family.
6. The home-economics department should utilize other courses in every way possible and thus work toward a coordinated health-education program.[14]

Methods of teaching. The scientific study of method in health teaching in secondary schools has not gone very far. Much more progress has been made in the elementary schools, and too often the same methods have been adopted in high schools with inevitable failure. Posters, health books, daily health habit records, and health plays may be useful devices in elementary schools, but they are not suitable for general use in secondary schools. Posters of the proper art intelligence level and made for a specific occasion are one thing, but when used as a method of health education are quite another. The same statement is applicable to all health devices. Another method consists of giving a sort of premedical course in physiology which

[14] "Health Trends in Secondary Education," p. 117.

might possibly be of advantage to a future medical student, but which has very little to do with everyday life.

Aside from statements that apply to the teaching of science and social studies in general, the best single statement of how to teach health is probably somewhat as follows: health teaching consists of engaging the pupils in significant healthful activities. A discussion of method in specific health may, therefore, include the procedures in physical examination, tennis playing, first aid, and such corrective sports as bowling. As such a discussion would carry us beyond the scope of this treatise, procedures in only a few activities are here discussed. The supervisor of specific health education will find much of methodology for his teachers in the manuals that contain rules for playing various sports; for general health education the methodology of science, social studies, and home economics as set forth in other chapters of this book is, of course, available.

The first procedure might well be a health knowledge test, and from the results might be found a base line from which to start. From knowledge tests given by Laura Cairns, Associate in Hygiene, University of California, Berkeley, to students in the last year of junior and senior high schools, it was found that "many students did not know what the room temperature should be; they did not realize the significance of the common diseases of childhood; students did not realize the importance of diet in relation to sound teeth; they failed to recognize conditions which produce eye strain; they did not know the best method for lighting."[15] Not many such tests have been developed, the most recent being the Gates-Strang Health Knowledge Tests (Bureau of Publications, Teachers Col-

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15 "Public School Health Courses Need Radical Reorganization," *Nation's Health*, Vol. 8, May, 1926.

lege, Columbia University). The following suggested uses of such tests are offered:[16]

1. To find out at the beginning of a term what health knowledge her class as a whole and as individuals possess. This will prevent waste of time and possible loss of interest through reteaching.
2. To find out if her teaching has been effective by discovering what the pupils have learned during the term or during a single unit of study. This is done by giving an initial and a final test, examining and comparing the individual scores and obtaining the differences in scores.
3. To diagnose to some extent the difficulties of individual pupils. A pupil may not be doing the healthful thing in a given situation because he does not know what constitutes the healthful activity or how to perform it. A certain pupil whom the test shows to be decidedly deficient in health knowledge can be given the individual instruction needed to fill this gap in his knowledge.

One type of organization of material is especially recommended—an organization of material around situations which the pupils are now meeting or will be likely to meet. The advantages of this type of organization are: (1) a larger transfer of training, (2) practice in perceiving the health aspects of a situation, (3) useful and interesting associative centers built up which have a functioning value such as a list of isolated facts do not possess, (4) practice in dealing with the health aspects of situations which should furnish important preparation for meeting new situations.[17]

Situation: Wanting Water to Drink on a Camping or Walking Trip.[18] Do not drink water from brooks, lakes, springs, wells which are not known to be free from infection. If there are people living or camping in the region, any such surface water may contain harmful bacteria. It is easy to bring good water with you in your canteen, or to boil it over your camp fire. "For the traveler, camper and others who must use water of various sources, the only safe procedure is to boil it."

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[16] Strang, *op. cit.*, p. 96.
[17] *Ibid.*, pp. 102-103.
[18] *Ibid.*, p. 87.

Springs are the best source of drinking water. Ground water is purer than surface water usually. "Very few bacteria occur in the water of most springs or deep wells." You cannot tell if water is good just by looking at it. Clear, sparkling water is not necessarily safe.

Very young children do not seem to object to the public discussion of their health habits but secondary-school children do. Some, however, are still interested in keeping their own personal daily record, as long as they are not obliged to report upon it. A good problem for a group is to work out a form for their health diary.

The fact that the American Child Health Association has sold over 30,000 copies of such a health diary, printed in an attractive booklet full of straightforward practical facts about a girl's daily care of herself, proves that girls have a need for this personal advice and like a definite checking plan: "Score yourself and find your total in the first column. If it is not 100, practice and check the Rules of the Game every day for six months. Then re-score yourself in the second column and count up your improvements. Record your original and find totals on page one, so that you can see your record at a glance."[19]

NATURE'S HEALTH AND BEAUTY SCORE CARD

Are you as attractive as Nature intended you to be? Score yourself.

SCORE POINTS

20 (*a*) *Average weight for age and height* (*see table*)

5 (*b*) *Hair*
Clean, glossy, free from oil, and becomingly dressed

5 (*c*) *Eyes*
2 Shining and alert; not dull and heavy
1 Not strained; no puckery lines or frowns
2 Clear white of eye; not muddy or yellow

5 (*d*) *Mouth*
2 Happy expression
3 No mouth breathing

[19] "My Health Book" (American Child Health Association), p. 11.

NATURE'S HEALTH AND BEAUTY SCORE CARD (*Continued*)

5 (*e*) *Teeth*
- 3 Well cared for
- 2 Good apposition (teeth meet properly)

10 (*f*) *Skin*
- 2 Clear
- 2 Good color
- 1 Smooth
- 2 Tissue firm
- 2 Skin under eyes smooth and clear
- 1 Cheeks and lips natural color

5 (*g*) *Hands*
- 2 Immaculately clean
- 1 Skin smooth
- 2 Nails and cuticle clean and carefully cared for (no extremes)

10 (*h*) *Feet*
- 5 Normal; inner border of bare foot a straight line from heel to end of big toe (big toe not bent toward other toes by pointed shoes, as this is apt to lead to a prominent joint at base of big toe). All toes able to spread apart
- 5 Feet properly shod (no extremes); straight inner border, low broad heels, flexible shank. (This does not apply to evening shoes)

10 (*i*) *Posture while standing*
- 1 Head well poised
- 1 Shoulders level (one shoulder not lower than the other)
- 1 Arms relaxed
- 1 Body line unbroken by abdomen; chest broad
- 1 Feet in good position; slightly apart and parallel

Good lines and grace while seated
- 1 Lower spine against chair-back
- 1 Hands in repose; knees almost touching each other; feet parallel or one crossed over the other

Harmony of movement while walking
- 1 Good rhythm of entire body
- 1 Feet toeing straight ahead
- 1 Elastic step; firm, not heavy

5 (*j*) *Good hearing*
Able to hear ordinary conversation at 16 feet

5 (*k*) *Good vision*
Able to read ordinary print at arm's length without strain

Able to read ordinary bill-board sign across a street (either with or without glasses)

10 (*l*) *Health as a social asset*

5 Radiating good health and spirits (full of enthusiasm)

3 Poise (perfect self-control; inspiring others with confidence)

2 Voice well placed and round; not high, thin, or nasal

5 (*m*) *Clothing*

Adapted in line and color to the individual; suitable to season and occasion

100 *Total*

Is your score what you would like it to be? If not why not look first to your diet and then follow the eight Rules of the Game?

One of the most essential and effective methods of teaching health is to have a faculty that exemplifies what it is trying to teach. This goal cannot be reached by overcrowding classes or overloading schedules. A vigorous, health-minded group of teachers must have out-of-door recreational opportunities as well as all other right-living conditions.

The measurement of results of health education. 1. *Problems of measurement in health education.* The curriculum should be tested from time to time by careful measurement, and changes should then be made in the curriculum if the results warrant them. One school superintendent wants to know what examinations his school physician should be expected to make. Another wants to know how the nurse can best utilize her time in reducing malnutrition among the pupils. A third is desirous of knowing whether he can get the most out of available money by securing another doctor or employing two more nurses. Finally, a fourth wishes to reconstruct the health program in the light of the results of a self-survey. It is difficult to answer these questions.

There is no doubt that methods need evaluation. The only available general objective tests of health education are knowledge tests, but specific studies have been checked to show their values. In a consolidated country high school in the Middle West, for example, the children in the eighth and ninth grades were grouped for the following projects: (1) beautifying and draining school property, seeding and planting, setting trees and shrubbery, etc.; (2) mosquito control; (3) extermination of the fly; and (4) clothing, including footwear and leading to studies of carriage and stride and tests in muscular movements and strength. These studies were carried into the community and the following checks were tabulated: numbers of old tin cans destroyed, pools drained, corrections of footwear, homes put on the inspection list, parents who assisted by cleaning up premises, destroyed or treated manure piles, stables cleaned, water samples submitted; also, the sentiment and attitude of the public toward the county nurse and health officers. The school passed through two epidemics during one school term and claims that much of the care of these persons and checking of spread of disease was due to the educative measures propagated by the pupils. Such inaccurate checks cannot be used in the place of scientific measurement of results, but as a teaching procedure they are valuable. When we come to measurement of results of health programs, we find four classes:

1. Psychological Values
   - A. Habit
   - B. Knowledge
   - C. Attitude

2. Health Status
   - A. Nutrition
   - B. Vision
   - C. Hearing
   - D. Skin Diseases

E. Tonsils
F. *Et cetera*

3. Correction of Defects

4. Communicable Diseases

Tests for these which shall be valid, objective, and reliable, are now being developed.[20] It is difficult to make sure that we are measuring what we pretend to measure; that another person would have the same findings; and to be sure of the same result when the same circumstances are repeated.

2. *Outline for the measurement of the results of a health program.* The following outline has been used in a secondary-school health program study and gives a very inclusive field for investigation. This outline was prepared by the American Child Health Association in conformity with the report of the Joint Committee on Health Problems of the National Education Association and the American Medical Association.

OUTLINE FORM FOR A STUDY OF THE HEALTH PROGRAM

The first step in such a study is an inventory of conditions to which the health program must be adjusted.

I. Description of School

1. Number of pupils attending school
   (*a*) Boys
   (*b*) Girls
2. Number of teachers in school
   (*a*) Men
   (*b*) Women
3. Population of city or town or country served
4. Number of other secondary schools in this area
5. Type of community served. This includes nationality, economic, occupational, and social status

20 "School Health Study," American Child Health Association.

6. Type of school: Private, public, parochial, consolidated rural or type other than these?
7. Grades included?

II. Description of Program

1. *General*
   A. What plan have you for coördinating all the factors contributing to your health program such as those described in the sections that follow?
   B. Is one individual, a department, or a faculty committee responsible for this coördination?
   C. What is the present position, training, and experience of these persons?

2. *Health Training and Instruction*
   (Meaning the Development of Good Health Habits, Desirable Attitudes, and Practical Knowledge.)

   A. Basic Subjects:

      (1) Secondary schools have an opportunity, through coördinated efforts of certain specialized departments, to provide scientific information applied to health problems. The following are suggested:
         Social Sciences
         Biology or any of its branches
         General Science
         Chemistry
         Physics
         Home Economics (including instruction in nutrition, home nursing, first aid, and related subjects)

      (2) For each subject in the above list that, in your opinion, contributes to health instruction in your school, give the following details:
         (*a*) Name of course
         (*b*) Required?
               Of whom?
         (*c*) Elective?
               By whom?

(*d*) Number of hours
(*e*) Where in student's course
(*f*) Textbooks, references, laboratory manuals and other supplementary material

(3) On what activities and interests natural to boys and girls of this age-group do you base such health instruction in any of the above "basic subjects"?

(4) What results related to personal and community health, either in habits, attitudes or knowledge, do you achieve through each course? How do you check up on these results?

(5) List other subjects—other than physical education—which contribute to your health program, and analyze the contribution of each

B. Specific Health Instruction:

(1) Examine following details concerning this instruction:
(*a*) Name of course
(*b*) Required?
Of whom?
(*c*) Elective?
By whom?
(*d*) Number of hours
(*e*) Where in student's course
(*f*) Textbooks, references, laboratory manuals, and other supplementary material

(2) On what activities and interests natural to boys and girls of this age-group is this health instruction based?
Illustrate, citing the specific life situations in school, home, or community, which you are using in the above way

(3) Describe means employed to check up on the results achieved through each of these courses, in habits, attitudes, or knowledge

(4) What is the school position, training, and experience of the following teachers:
   (*a*) Those who are responsible for the planning and supervision of this definite health instruction
   (*b*) Those giving the instruction to the pupils

3. *The Hygienic Arrangement and Administration of the School Program*

A. For Pupil:

(1) What is the maximum length of pupil's school days?

(2) How is this time apportioned to the different types of school work?

(3) What opportunity does your daily program give for recreation in addition to the regular physical education periods?
How do the pupils use these opportunities?

(4) Does the home study plan consider the amount of sleep and recreation needed by the pupils?

(5) School lunch:
   (*a*) Are you presented with a lunch problem because of distance between school and homes?
   (*b*) What are the qualifications of the person in charge of the lunch room?
   (*c*) What are the principles underlying selection of foods offered for sale in lunch room?
   (*d*) How do physical conditions contribute to the educational value of the lunch room, such as, time allowed for lunch, order of the room, seating and lighting facilities, etc.?
   (*e*) How is the lunch utilized as an educational factor?

(*f*) Who is responsible for catering at school parties?

(*g*) Are food sales for money raising approved by Department of Home Economics?

(6) If the general discipline of the school contributes to the health program by giving the pupils poise and self-control through self-direction, how do you accomplish this?

(7) What provisions are made for physically handicapped pupils?

(8) What provisions are made for temporary disability?

(9) When educational examinations are given, do you prepare the schedules with consideration for the health of the pupils?

B. For Teacher:

(1) What hygienic facilities are there for teachers in relation to:

(*a*) Rest

(*b*) Lunch

(2) In arranging the teachers' schedule, is rest taken into consideration?

(3) If the teachers take recreational responsibilities after school hours, is the load equalized among them?

(4) In making demands upon the teachers for extraschool responsibilities, are their own needs for recreation considered?

(5) What responsibility does the school take in the living conditions of teachers?

4. *Physical Education*

A. What is meant here by Physical Education is the "Big-Muscle Activity Program" and includes directed exercise, games, athletics and dancing, under the supervision of the school

(1) Give following details concerning each separate activity in Physical Education:
   (*a*) Name of course
   (*b*) Purpose
   (*c*) General content
   (*d*) Method
   (*e*) Sex and qualifications of teacher
   (*f*) Required?
      Of whom?
   (*g*) Elective?
      By whom?
   (*h*) Periods per week
   (*i*) Length of periods
   (*j*) Out or indoors
   (*k*) Where in pupil's course

(2) List the above courses in their order of importance for developing the latent power for health. Justify this arrangement

(3) What uses are made of the results of the physical examination in planning the Physical-Education program?

(4) What change, if any, do you make in the program for girls during the menstruation period?

(5) How is the problem of "Posture" taken care of? Describe the method by which you measure posture improvement

(6) What evidence have you that during leisure hours the pupils make use of activities taught as part of the Physical-Education program?

(7) Boys' Athletic Program:
   (*a*) What is its chief aim?
   (*b*) What proof have you that this aim is achieved?
   (*c*) Analyze the boys' athletic situation

(8) Girls' Athletic Program:
   (*a*) What is its chief aim?
   (*b*) What proof have you that this aim is achieved?
   (*c*) Rules, events, and standards for boys' athletics are uniform and recognized. This is not true for girls' athletics. In

coaching girls' athletics, are the same rules, events, and standards used as for boys?

1. If so, why?
2. If changes are made, justify these changes.

(9) Physical "ability tests":

(*a*) Boys:

1. To whom given?
2. For what objective?

(*b*) Girls:

1. To whom given?
2. For what objective?

5. *Health Supervision of Pupils and Teachers*

A. Health Inspection:

(1) How do you handle problems of prevention of contagions? Is the common cold declared a communicable disease?

(2) What study of absences through illness? How is this study used in your health program?

B. Health Examinations and Their Relation to the Health Program:

(1) Physical Health (Refer to the first paragraph of the introduction).

(*a*) Is a physical examination given?

1. To pupils?
2. To teachers?

(*b*) Purpose of this examination?

1. For pupils?
2. To teachers?

(*c*) Procedure used:

1. By whom administered?
2. When in the pupil's school career?
3. Is examination given in special room? If not, where?
4. How many examined per hour?
5. What do pupils wear during examination?
6. Who is in the room?

(*d*) Records:

1. By whom are results recorded?

(*e*) Interpretation and follow-up of results:

1. By whom are results interpreted?
2. What physical or functional handicaps do you make an effort to correct?
3. What do you accept as evidence of correction?
4. What general and specific plans have you for aiding the physically maladjusted pupil?

(*f*) Additional information:

Your particular situation may give rise to some problems not appearing in this outline. In that case include in study any activities which in your opinion seem important and analyze your reasons.

(2) Mental Health (Refer to the first paragraph of the introduction).

(*a*) Are mental examinations given?
1. To pupils?
2. To teachers?

(*b*) What tests are used?

(*c*) Procedure used?
1. By whom administered?
2. Qualifications of the examiner?

(*d*) Records:
1. Who scores tests and records results?

(Attach a sample copy of each record blank used.)

(*e*) Interpretation and follow-up: List the uses made of the test results.

(*f*) Additional information.

Problems arising out of your particular situation which do not appear in this outline may hold an important place in your plan. Study all that in your opinion seem important.

(3) Emotional and Social Health:

The work "social" is here used in the sense of the ability to adjust oneself to situations and relationships in home, school, and community.

Units of measure within these two phases of every Health Education program are, as yet, if they exist at all, in such crude stages of development that no actual examinations may be recorded. This does not mean that they are less important or less valuable as phases of general health but that the report regarding them must of necessity take a less definite form.

Such questions as the following may be asked:

(*a*) What provisions are you making for healthy expression of the emotional life of the children? Be as specific as possible.

(*b*) What attention is given to social adjustments in this adolescent period of the pupil's development?

(*c*) Have you in any way provided for recreational guidance? Is there a director or committee whose duty is to coördinate all recreational factors in the life of all the pupils?

(*d*) How is student participation in extra-school activities guided so as to secure the maximum health value, mental and social as well as physical?

(*e*) Do you make use of the results of the physical and mental examinations and the pupil's educational status as aids in the social guidance? Tell how specifically.

(*f*) In issuing working papers or in directing the pupil's future occupational activities, do you take into consideration his health records in relation to the demands which will be made on him by the conditions of the occupation? How?

6. *The Hygiene of the School Plant*

Because of the detailed study already made on this topic, the following reference is given: *Standards for Elementary School Buildings,* by Strayer and Engelhardt, Teachers College, Columbia University, 1923.

This reference will enable those who so desire to evaluate their school plant in relation to recognized standards.

A. List such equipment of school buildings and grounds as in your opinion affects the health of the pupils.

B. How do you use these facilities for education of pupils in health?

C. Who is responsible for the hygiene of the school plant?

7. *Preparation of Teachers for Health Training and Instruction*

A. What health requirements are there for the appointment of teachers?

B. If not already covered in the previous section, state the training and qualifications of the members of the faculty who are directly responsible for any part of the health program, including all "coaches."

C. What opportunities are open to the teachers for study of subject matter and methods related to the teaching of health? How do you encourage your teachers to take advantage of these opportunities?

8. *Evaluation*

A. Considering your program as a whole, which of the main divisions in Section Two of this outline is your strongest asset? Why?

B. Which do you consider your weakest? Why?

C. On the basis of 100 points, set down the proportion you would give to each of the Divisions II-VII, inclusive.

D. Which part of your program do you plan to expand next?

(1) Why do you choose this part?

(2) How will you expand it?

3. *Reconstruction of a health program in the light of the results of measurement.* For any constructive work there are four essentials: workmen, tools, material, and a

plan. To build well, the workmen themselves must have complete and first-hand acquaintance with both material and tools, and must understand the plan into which their specified work is to fit. It is suggested that one of the most practical and effective methods by which the activities of a school which are related to health may be appraised is by self-study. The following outline [21] is offered as a rough sketch of the steps by which such a program of self-study may be organized and put into operation, together with suggestions as to the outcomes which might be expected.

The Formation of a Study Committee

Composed of the administrative head and the heads of the various departments, the function of this committee should be:

(*a*) To examine into the strength and weakness of the administration of the school for the protection and promotion of the health of its pupils.

(*b*) To analyze the activities and the contributions of the various departments as related to health.

(*c*) To build up and unify a health program on the basis of this study.

Initiation and Development of Self-Study Schedules

The Study Committee should prepare several interlocking schedules for studying the activities of the schools in relation to health. These schedules would fall in two main groups: (1) for examination into the administration and organization of the school, and (2) for analysis of the contribution of the curriculum to health.

I. Study of several interlocking schedules to study the activities of school related to health.

1. Schedule for administration (principal, dean, director of health, etc.)

Questions on admission—graduation—classification—pupil schedule—size, organization of classes—recreation—discipline—sanitation—teacher qualification—load—social and mental adjustments of

[21] By Emma Dolfinger.

teachers and pupil. After questioning each, getting at net health results from home economics, physical education, science, medical examination. Strength and weakness of program.

2. Schedule for Home Economics
   A few questions getting at motivation—attitude—relations with science, physical education, social adjustments; major questions, details in Home-Economics field.
3. Schedule for Physical Education
   A few questions getting at motivation—relation to medical examinations, biology or hygiene—food habits—social adjustments; major questions, details of physical education.
4. Schedule for Science Classes
   A few questions getting at motivation—at foundation laid for home economics—physical education; application and health status of students, social adjustment; major questions, details of course.
5. Schedule for supplementary subjects, as English, history, civics, arts

II. Procedure

1. The principal, vice-principal, dean, medical officer, others whose duty is administrative or executive—not teaching primarily—should independently analyze his school by the schedule.
   Each department head (or subject teacher in small school) should independently analyze his or her department or class work by the appropriate schedule.
2. The administrator—or group—should list the strength and weakness of school as shown by the analysis. Should underline the weakness which can be corrected and should draw up a list of suggested recommendations for changes to take up with his faculty.

Conference

Each department (all members participating) should list its strength and weakness. In department conference (if large school) possible reorganization to show strengthening should be discussed and several possible plans agreed upon.

Conference between administrators and heads of departments or different teachers (small schools), should be held to discover how programs of the major departments can be modified to mutually strengthen, complement, and to bring about changes recommended by administrators as desirable.

3. Preparation, as result of this conference, by a competent committee, representing major departments concerned—of recommendation to principal, of steps needing to be taken: as
   - (*a*) Program changes (school as whole) including doctor, nurse, psychologist, etc.
   - (*b*) Schedule changes—(individual—child and teacher)
   - (*c*) Equipment changes
   - (*d*) Changes in procedures within departments —subject matter, methods, objective
   - (*e*) Changes in standards of promotion—graduation
   - (*f*) Changes in pupil record cards
   - (*g*) Other changes that may occur
4. Priority and Practical Measures

   Administrators and heads of departments—consider list as above planned and decide
   - (*a*) What changes require money? How much each? Feasible to raise?
   - (*b*) What changes require school reorganization? Feasible?
   - (*c*) Vote taken on priority
   - (*d*) Responsibility for new project assigned

Follow-Up

As a result of above procedure, it would be possible for each department to chart on paper its plans for modification; to date the approximate time when each step would be undertaken and to list the requirements in money—time—equipment—personnel —as well as modifications of aim and content. Such a record could be checked against, account book style, from year to year. If copy were in hands of administrator, latter could ask for statement of progress, when annual report is made to him by department head or teacher.

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CHAPTER XIV

THE SUPERVISION OF HIGH SCHOOL LIBRARY SERVICE

BY HANNAH LOGASA

The University of Chicago High School Library

Library service in modern secondary schools. An examination of high-school library conditions which make supervision desirable if not absolutely essential should precede any attempt to discuss the major duties of supervision of high-school library service. Its aims are to serve the school as a unifying and correlating agency, to coöperate with each department in its specialized instruction, and at the same time to carry out an educational program in the library room. These three objectives must be synchronized so that they will be adapted to the particular school in which the library is to function. We find, then, a complex library situation placed in the greater complexity of a modern school, which deals in turn with the pupils of the exceedingly complex adolescent age.

1. *Types of library service.* The services which the library is to perform in the school are, as shown in the diagram, of various kinds. Directly, the school library in the library room aims, first, to guide and direct the leisure reading of the pupils in the school; to give children, through books, a knowledge of the world in its diverse form; to help them discover their own creative abilities and aptitudes; and to enable them to obtain vicarious experiences which will add to their apperceptive mass. Much of this education in the library is carried on at the play or personal interest level with individual pupils. The second

High School

Administration

Curricular

Laboratories

Library

Personnel

Extra-curricular

Curricular

Laboratories

Personnel

Extra-curricular

Administration

direct contribution of the library to the educational program of the school is the training it gives to pupils in the use of books and libraries. No teaching done in the school will pay greater intellectual dividends than this course; for the information gained there will always be of value to the student, no matter what the kind of work in which he may afterwards be engaged. Most people, whether they are students or not, have need occasionally of using the resources of a library. But a surprisingly large number of intelligent and apparently well-educated people have not the slightest idea of where to look for the information they desire, or how to go about finding out where it may be. It is just such information that the school library can give the student, both by actually serving him, and by showing him how to use the resources of the library: how to look up subjects in the card catalog, the arrangement of books on the shelves, etc.

Indirectly, the library serves as a unifying agency in the school. The administrative officers and the library are the only two agencies in the school that are not primarily concerned with specialization; and, likewise, they are the only two departments in the school that have the opportunity of knowing each and every pupil in the school, as all the teachers do not. The administrator and the librarian come in contact with all the influences, social, intellectual, and moral, which make up what is called school life, and are thus enabled at all times to sense student opinion in the school and the state of the school morale. They are both, consequently, in the best possible position to do the personnel work with the pupils which the modern school now offers for the adjustment and guidance of its individual pupils. Again, the principal and the librarian are the only two school officers who come into direct contact with all the teachers and with the teaching activities in the school. In the progressive school, the use which the

teachers make of library material, the extent to which they stimulate pupils to work out voluntary projects, and the interest in their subject which they engender in the classroom, which in turn results in the circulation of books from the library for home reading, will be one important index to the quality of the teaching done. The reference work done in the library, and the statistics of the book circulation are, in a sense, a measure of the type of classroom procedure and resulting stimulation, and are indicative of the kind of classroom teaching that is being done. In one school library, it was found that many more books were used and circulated for Latin than was the case for French. An explanation of this fact from the French department could well be expected. In like manner, it was found that the circulation of books for interest and project reading on mathematics far exceeded the circulation of books for all the other sciences put together, although there was a good collection of science books available. For this condition explanation from the science department might well be in order.

As a coöperating and correlating agency, the library serves as a laboratory for all departments in the school. For certain departments, for example, English, social science, etc., it serves as the primary source of material. For such departments as science, manual arts, etc., it serves as a secondary laboratory. But the library is not only the source of material; it is an adjunct to every classroom in the lesson-getting of the pupils. A few examples of the use of the library in connection with classroom teaching will illustrate the range of service to the teacher which the librarian gives:

1. General assignments made by the teacher require that the librarian interpret the assignment to the pupil, and give him the kind of material which will fit into the unit of instruction.
2. The librarian initiates and directs the voluntary projects

which pupils undertake by providing the material or suggesting where material on the subject may be found.

3. She makes available actual facts about any disputed points met with in the classroom discussions.

4. She works with the pupil on the oral talks which he is to present before the class.

For the teacher herself in her classroom teaching, the librarian gives service of the following nature:

1. Analyzes the new magazines and calls the attention of the teacher to material which can be used in the classroom.
2. Calls the attention of the teacher to new books on her subject.
3. Provides classroom libraries on every unit of work.
4. Provides illustrated material for the classroom bulletin board.
5. Provides a special home-reading shelf for her pupils in the library.
6. Displays in the library work which has been done in the classroom.
7. Makes available the visual aids for enriching the subject matter taught.
8. Provides a library "Reserve" for special assignments.

The coöperation of the library with the teaching functions of the school has two aims in view; namely, to enrich the subject matter taught, and to enable each department in the school to carry out its objectives to the end that the pupils of the school may receive the best training possible for life and living.

2. *Library organization and control.* The complexity in the function of the library in the school is also inherent in the library organization and control. The earliest school libraries were branches of the public library established in the school to serve the general public in the neighborhood as well as the school in which it was placed. The public library, in attempting to give service to two units of library service with such diverse needs, could serve

neither adequately. From the point of view of the school, the library thus established was a source of disappointment insofar as service was concerned, because, aside from the cultivation of a reading habit, the goal of all libraries, the main purposes of a public library and a school library are totally different. Some of the objections to such a combination of forces may be stated briefly as follows:

1. Since the library was open to the entire neighborhood, undesirable persons often came into the school building.
2. A book collection suitable for all the people in a neighborhood would not always be suitable for the adolescent pupil.
3. The supply of books was not specially chosen for the library as a laboratory in the school.
4. The arrangements made conflicts in library and school hours which resulted in janitorial and other difficulties.

There are still in existence high-school libraries which are used as branches of the public libraries, but their number has decreased. The only thing that can be said in favor of this arrangement, as far as the school is concerned, is that this kind of library costs the school nothing except furnishing the library room and the expense of heat and light.

Many school libraries in the large cities, Cleveland, for example, are under the joint control of the Board of Education and the Library Board. Definite administrative arrangements are entered into for certain specific services to be rendered by each party to the contract. This joint control works out well in some cities. In other cities there is friction between the two boards, which spells disaster to the development of school libraries of the highest type. The school library cannot function properly without proper conditions. Lack of adequate space, lack of a budget for a well-rounded book collection, lack of the right kind of librarian to administer the library, all are vital matters in which the disagreement of the two boards will affect

library service. Friction between boards is known to have been the cause for the discontinuance of library service already established in the schools; while in other cases, for the same reason, the library was not opened until the school year had been in progress for some time. The outstanding objections to a joint control of the school library are:

1. Impossibility of vesting responsibility for the high-school library in any one person or body of persons.
2. The difficult position of the librarian, who must serve two masters.
3. The difficulty of fully adapting the organization and administration of the library to the school in which it is located.
4. The possibility that important details in library service will not come directly within the province of either school or library board.

Libraries established under entire school control are obviously in the best possible position to serve the school. Such control makes the library an integral part of the school system, organized and administered as is any other department of the school for the business of educating the school population. So established, the school is likely to maintain conditions under which the library can function in education. The library thus has an opportunity to adapt itself fully to the particular school of which it is a part and is in a position to develop to its utmost potentialities. But even in this seemingly ideal situation, there are drawbacks to potential library development for the following reasons:

1. Lack of understanding of the library and its possibilities which is common among educators.
2. The school is likely to emphasize the use of the library as a laboratory for the classroom teaching, to the detriment of the use of the library as a direct agency in the training of pupils for reading as a leisure occupation.

3. The book fund is likely to be spent largely for books to illustrate the subject matter taught, instead of for the building up of a book collection which is well-balanced and will represent the results of the civilization of all times.

4. The school is likely to look upon technical library work, and the devices which make library service both accurate and immediately available, as high-grade clerical work, instead of recognizing that such mechanical training is a necessary part of a librarian's background, without which she would be totally unable to give the quick, intelligent service which her patrons require.

3. *Qualifications of the school librarian as demanded by modern schools.* A school library is more than a collection of books placed in a room called a library. It is an educational unit which will function only to the extent to which the librarian in charge makes it do so. All the qualifications and personal attributes which we associate with the "born" teacher must also be present in the "born" librarian. And to the general qualification of the teacher, the librarian must add the following:

1. She must have the ability of an administrator because she must administer the educational unit called the library.

2. She must have a dynamic personality, because she must be able to influence intellectually, mentally, and morally the horde of pupils who use the library room.

3. She must have the ability to coöperate successfully and fully with all the intellectual and social life which the school carries on.

4. She must be a book specialist, must know all the books in every field of instruction, and their suitability for pupils of the high-school level. She must know not only what the book is about, but also how it may be used in educating the child.

5. She must have knowledge of technical methods, and experience enough in their use so that technical library work is automatic. Only when that part of her work is relegated to the realm of habit and habitual routine, will a librarian have the time necessary to do real educational work.

6. The librarian should have had successful teaching experi-

ence. Since part of her work will be that of organizing and giving a course in the use of books and libraries, the librarian must be able to do this in a manner which conforms with the best teaching practices.

7. The librarian must understand the psychology of pupils of high-school age, and be able to work with them efficiently in her direct capacities, and also in the indirect capacities in which she is an adjunct to classroom instruction.

Just as there are not enough "born" teachers to go around, so there are not enough "born" librarians for the positions to be filled. And yet any lack in the qualities which are listed above will limit the potentialities of library service because library service can function only as the librarian makes it function. Few school librarians actually have the generous education, the broad human sympathy and experiences, the dynamic personality, and the qualifications which are enumerated. Such a paragon is perhaps a possibility of the future. In reality, the librarians in service may be classed as follows:

1. Librarians without college degrees who have had successful public library experience.
2. Librarians who have had library training in accredited library schools but little actual library experience and no teaching experience.
3. Librarians who have a degree, and have had successful library experience, but have had no library training.
4. Librarians who have a degree and library experience, but who have only had the short course in library training.
5. Librarians who have a college degree, some teaching experience, but who have had no library training or experience.
6. Librarians who have a degree, some teaching experience, and who have taken the short library course.

Many combinations of the above conditions are at present to be found in the qualifications of the school librarians in service. From the functional side of library work, the librarian's qualifications should include a college

degree from a university of standing, library training in an accredited library school, and successful teaching and library experience. It is only recently that standards for the qualification of school librarians have been formulated.[1] These standards must of necessity be only general and elastic because few librarians in service could come up to the standards; nor would it be possible at present to find enough persons outside the service who could qualify. It is only recently that courses especially adapted to school-library work have been offered in the accredited library schools. And even yet there is a great lack of expert knowledge of the library training courses which will best prepare for the school-library field. Any examination of the courses offered in the library school which deal especially with school libraries shows a barrenness of opportunity for getting a knowledge of the conditions in secondary schools which school librarians will have to face.

4. *The choice of suitable books for modern school libraries.* Within the past ten years the number of books suitable to the maturity of the high-school pupil has greatly increased. In content, degree of difficulty, and method of approach there is now a fairly adequate supply of books for pleasure reading, the satisfaction of intellectual curiosity, and for the securing of information, for pupils of high-school age. This was not the condition which prevailed in, say, 1916. At that time, for example, there were few books in science suitable for high-school pupils, and in vocational guidance only a bare beginning had been made. To offset this dearth of material, some of the older school libraries had to order for the use of the high school, books that were designed for use as college texts. Libraries can build up their book collection only from the material available in any field at the time the books are ordered.

[1] State library certificates are required in Minnesota and New York.

For subjects in which there is little material and in which the need exceeds the available supply, makeshift material must at times be provided. It is obvious then, that as new and better material appears and is added to the library, the old, makeshift material must be discarded. Failure on the part of a school library to undergo this process of elimination will eventually result in the "book weeds" almost hiding and in some cases choking the growth of useful books, because of the fact that the "weeds" take up valuable shelving space.

One of the educational responsibilities of the librarian is to make available under proper conditions the right books for the mental and moral growth of high-school pupils. There are vicious and inane books just as there are vicious and inane people. It is the duty and business of education to select those things in the pupil's environment that will make for growth in the right direction, and to eliminate therefrom those elements that act as a detriment to that growth. The standards and attitudes adopted by pupils are in large part taken from the books read in the library room, or from those furnished to classrooms by the library. The responsibility of the school for the books that are put into the hands of the children is, therefore, fully as great as its responsibility for any training which the child receives in the classroom. It must be recognized that books have the power to influence both the intellectual and imaginative life of the child. And because such influence is subjective and sometimes intangible, it is quite often all the more powerful for good or evil.[2]

Not only can the library book collection show sins of commission (inclusion of undesirable books), but it can also show sins of omission, mainly in the absence of books

[2] *Cf.* W. L. Uhl, *The Materials of Reading* (Silver, Burdett & Co., 1924), pp. 182-186.

that the pupils need for their educational growth. The opportunity which the library book collection affords to pupils of carrying on a step further the work of the classroom, and the opportunity it provides for leisure reading are as important in contributing to pupil growth as any other activity in which the school engages. Only through an exact knowledge of the methods of teaching in the school, and of the objectives of every department of the school, can the librarian create a book collection which will be of value in supplementing the subject matter taught. And only by a wide knowledge of books and a sympathetic understanding of the pupil of adolescent age, can the librarian supply him with books which will be both useful and entertaining, books which will serve him as guides to further study, and which will fill his leisure moments both pleasantly and profitably.

Granted that the books themselves are well chosen, there is still the danger that the ratio of one class or kind of books to the needs of the school as a whole may be disproportionate. In almost every school library one department has a tendency to build up its special collection at the expense of another department, thus lessening the chance of that department's accomplishing the work it might do if it had its just share of library facilities. Along with this same tendency is the problem of under-adequate and over-duplication of books which affect the library collection disastrously at times. Under-duplication results in the inability of the library to coöperate effectively with the teaching activities of the school. Over-duplication causes a waste of the book fund, and a resultant lowering of the standard of the entire book collection. Even with the exercise of the greatest possible care, there will be in every school library a certain amount of "dead material." This situation, which seems to be inherent in school libraries, cannot always be controlled.

1. New teachers require the books with which they are familiar. That means that some material already available for the course will not be used.
2. New courses in the school require new material, and, if the material available is meager, it requires wide duplication. If the course is discontinued a large number of "dead" books will be the result.
3. A new stress placed on an old course will affect the material.
4. The change in methods of teaching in the school will affect the kind and number of books needed and used.
5. The direction which the teaching gives to the pupils' interests will make some material obsolete.
6. The changing maturity of the pupil, and the changing things of interest in his environment alter his demand for books.

The library in the complex modern school makes a problem that might well deter any librarian from undertaking the work of supervision; and yet it is this very complexity which holds out stimulating possibilities. It is a situation that will test the best efforts of the supervisor. The number of libraries in any given district will determine whether or not it is economical to provide a supervisor. Where libraries are isolated and great distances apart, supervision would be too costly for the results obtained. At present there are two units of school-library supervision—state supervision of school libraries, and city supervision. Four states—New York, Wisconsin, Pennsylvania, and Minnesota—each have a supervisor of school libraries under the jurisdiction of the State Department of Education. Indiana, New Jersey, Oregon, and Ohio have school supervisors under the jurisdiction of the State Libraries.

Major duties in the supervision of library service. 1. *Major duties of the state supervisor of school libraries.* The major duties of the State Supervisor of School Libraries are necessarily general in scope. Because of the distances to be covered, it is impossible for the supervisor to have direct contact with all the school libraries in the

state save through inspection at rare intervals and through correspondence. The state supervisor can direct the general school-library policies in the state, set up standards, and, by inspection from time to time, he may learn whether the standards thus set up have been observed. In the states that furnish state aid to school libraries, the supervisor can bring tangible pressure to bear on the libraries that do not come up to specifications. Where no aid is given, he cannot enforce the standards, but must depend on each school to uphold the standards. Because of the great distances to points within states, the supervisor can do little more than note conditions and make suggestions for improvement. He cannot carry on day-by-day library remedial work. Much of his time must be spent in the central office, and much of the direction of the work under his supervision must take place by correspondence. Briefly stated, the major duties of the state supervisor are these:

1. To direct school-library policy.
2. To set up standards for the state.
3. To inspect libraries and make recommendations for improvement.
4. To furnish official book lists for the school libraries in the state.
5. To advise educators and librarians on general matters pertaining to the library, for example, organization, equipment, budget, book collection.
6. To advise educators and librarians on technical, educational, and functional matters pertaining to libraries.
7. To confer with school authorities about the advisability of establishing a new library.
8. To help school administrators organize new libraries.
9. To suggest librarians for vacancies.
10. To make contacts with other library agencies.
11. To arrange for courses in the use of books and libraries to be given in teachers' institutes.

2. *Major duties of the city supervisor of school libraries.* In large school systems where there are a number of school

libraries within reasonable distance from each other the supervisor can exercise the most useful function. In such a situation, the supervisor's work is not primarily that of an inspector. He is critical only to the extent that he is able to diagnose conditions before putting in force the necessary remedial work. The supervisor in a city system should be able to harmonize the library and school interests, train librarians in service, organize new libraries, and put old libraries on the road to good service. In order to do these things, he must be able first to command the respect of both school and library interests. His control of the school libraries in his district will depend upon his ability to demonstrate his knowledge of practical library detail work and its application in the school library. Above all, the supervisor must know at first hand all the conditions in the school environment that have a bearing on the library in the particular school.

In order that the supervisor carry out his program for the betterment of a library in a particular school, he must know the exact conditions in the physical and educational environment of the pupils. A rapid survey of the neighborhood from which the school draws its school population must precede any plans for supervising the school library. If the school is in a slum neighborhood, the library must, among other things, make a special effort to supply for the pupils, that touch of beauty which the neighborhood lacks, and be prepared to teach manners without preaching about them. The book collection, too, must contain material in which the ideals and possibilities in a world differing greatly from theirs is present, so that in vicarious experiences these pupils handicapped by their environment may have the opportunity of coming into contact with books which will expand their souls and visions. This is one way of giving to these pupils equal opportunity with other pupils in a more favorable environ-

ment. For, if their mental horizon be enlarged, their actual horizon does not greatly matter.

In industrial communities, where the point of view of the inhabitants is prevailingly practical, the library must respond to the general interest. It must supply literature which will be of definite practical service to the readers. But although vocational guidance material is at hand, and the librarian does personnel work leading to the placing of the pupils in the right life work, yet she must give to the young people books which will make them feel that "man cannot live by bread alone." In such a neighborhood, the imaginative literature should be stressed in the work with the children. There is need to refine the sentiment, and to train for an avocation as well as for a vocation. The acid test of any human being is how he spends his leisure. Children who go into practical life at an early age need more than anything else to be trained for that ever increasing leisure. It is in the school library that the pupil of industrial bent or necessity must be guided to prefer good books as a leisure occupation.

Quite as much as the poorer neighborhoods, the wealthier communities will need special consideration in the choice of the book collection, and as to the type of work done in the library. For these pupils who are fortunate in the economic sense need to have brought home to them the conception of the dignity of labor and the worth of work honestly done. The book collection should assist in giving them an understanding of "how the other half lives." The dilettante attitude which is common in the children of such neighborhoods should be combated by an insistence on thoroughness and a pride in intellectual research honestly and scientifically carried on.

A first-hand knowledge of the conditions within a given school in which the library is to give service is essential. The information needed is detailed, including within its

scope knowledge of administration and organization of all administrative and curricular as well as extracurricular activities. How is the pupil accounting carried on? What is the routine when pupils are absent or tardy? What is the attitude of the administration toward pupil discipline? This information is vital to library administration since the library becomes a school agency and takes on the duties which every other teacher in the school carries on. The irritating effect which can result from a non-conformance with details of school administration through ignorance of the school requirements is often an unnecessary source of friction.

Obviously, the supervisor must be familiar with the course of study and the objectives of every course in the school. This information should be in a form which the librarian can use in coöperating with the various types of classroom teaching carried on. The mode of teaching in each subject, the progression in the subject matter in each course, and the special devices which the teacher uses in order to stimulate pupil activity will react directly upon the kind of library service which will be in demand by teachers and pupils. Not only should the supervisor know all the present educational conditions and practices in the school, but he should also be informed in advance of plans for new courses. Otherwise, the books, pictures, posters, etc., needed in the new course will not be available when desired. The delay in supplying adequate material for the new course will be found to be a handicap which can, however, be easily removed if the supervisor is informed even a short time in advance concerning the future needs of a class. Equally important information is that concerning the reorganization of an old course. Such changes in subject matter and stress on important points as will be made in the course will call for new material from the library.

Many libraries do not give the maximum of service because the librarian has no definite or exact knowledge of the school situation upon which to build up intelligent library service. It is impossible for the librarian to take time from her manifold duties, long school day, and heavy pupil load to study carefully the situation in the school. The data on the details of school management are scattered and not immediately forthcoming. Any real idea of the modes of teaching requires visits to at least one classroom in each subject. Obviously, the librarian who has both direct and indirect educational duties cannot find time to gather this information at first hand. The supervisor can collect and make practical for the librarian all the information which the librarian needs to make the library conform with school practices, and to make coöperation with all classroom and social activities both intelligent and effective.

The supervisor should have expert knowledge of school libraries and their potentialities in the service of education. In the observation of a particular school library, the physical conditions under which the library must function, the budget for running the library, the book collection, and the type of librarian in charge must be studied in relation to the services which that library is actually giving. It is humanly impossible for a librarian through her own personal work to make up entirely for the handicap of lack of space, equipment, and material which would make for quick response to school needs. Furthermore, a library organized according to the best standards will not give the maximum of service to the school without a capable librarian.

In many school libraries, the demand of the school population for library service exceeds the ability of the library to satisfy the demands. In other school libraries the demands for library service are not up to the limit of service

which the library is prepared to give. Economy would dictate that on the one hand the library facilities be increased so that the library would be in a position to supply the demands made upon it; and on the other hand that additional ways be found which would lead to a more generous use of the library by the school.

Armed with a full knowledge of all the conditions which affect library service in the school, the supervisor is in a position to begin the work of improvement of service. He will first begin with the pressing conditions which need immediate remedial work, and then proceed immediately to other less urgent problems. No two libraries will need quite the same initial treatment, and no two libraries will respond in exactly the same way to the work of improvement. In general, however, the city supervisor of school libraries will find the same opportunities for service open in every school. Among his tasks will be:

1. To set up standards for each library as well as general standards for the school system.
2. To harmonize library and school interests.
3. To advise school authorities upon matters pertaining to school libraries.
4. To pave the way for new school libraries and make plans for existing libraries.
5. To open new fields of library usefulness.
6. To supervise the building up of a book collection suitable for the particular school.
7. To supervise the economical expenditure of the library budget.
8. To fit the work of the librarian in any school more nearly to the needs of that particular school.
9. To teach and demonstrate the technical library work in schools where the librarian has no library training.
10. To organize and give the course in the use of books and libraries in schools where the librarian has no teaching experience.
11. In libraries which are not functioning well in the school, to diagnose the reason for this failure and then take steps to

eliminate the unprofitable practices and substitute those which would benefit the school.

12. To choose the number and kind of devices which would be most likely to bring about closer coöperation with the teaching activities in the school.

13. To plan a campaign of library publicity which aims to increase the voluntary reading of the pupils.

14. To make contacts with other library agencies in the community.

In libraries which are not functioning adequately in the school, the supervisor can be of most service. In such cases the supervisor should by observation discover the reasons for the maladjustment and plan a definite program for remedial work. The unsatisfactory condition of the library may be due to any number of reasons: the physical conditions may be at fault; there may be too many pupils in the library room; the principal and teachers may not be coöperating with the librarian; the budget may be insufficient to build up a "live" book collection; the devices used in the library may be too many or too few; the librarian may not be able to get the special library supplies which would make her work more accurate and her service more prompt; she may be inexperienced or not well prepared otherwise for her work; her load may be too heavy, in which case she needs assistance; the book collection may have too much "dead" material and may need weeding out; the books on hand may not be suitable for the high-school level; the discipline of the pupils while in the library may be so poor that it interferes with the work of the library; the reputation of the library in the school community may be at such a low ebb that few have any respect for it or for what it can do. Any combination of the conditions stated above will have a disastrous effect on the usefulness of the library. In such a situation, the supervisor must create conditions within the school which will result in a favorable school opinion to-

wards the library. This can be done only by changing conditions in the library materially and making good service the rule. This good service must be continued day by day for a long time before the new tradition of effective library service is recognized by the school population.

To summarize, the supervisor should, as far as possible, work through the librarian. In no sense should he act as a check on the initiative and responsibility of the librarian. There should be guidance, direction, and educational leadership by the supervisor to the degree needed by the particular librarian in the particular school situation, but in general she should be left free to work out her problems alone, if she is able to do so. Only when the librarian will coöperate with the supervisor for her own betterment can her work show the kind of improvement which results in real library progress. Since the librarian is to carry on the daily work with teachers and pupils, she should be given every opportunity of showing her ability to contribute to the educational objectives of the school and to make her worth felt.

Objectives of the high-school library. In a general way, all school libraries aim to give service to the school of which they are a part. The kind and amount of services they are able to give depend on the educational practices in the school, the coöperation given to the library by the school community, and the state of the library. In schools where the library is used partly or wholly as a study room in addition to functioning as a library, the possibilities for service are increased. This will be obvious from an examination of the objectives of the library-study-room of the University of Chicago High School Library.

LIBRARY—STUDY ROOM

I. *General*—Objectives in the school organization:
   A. To serve as the laboratory and work-room of the school

B. To make available library material for the use of teachers and pupils
C. To coöperate with all departments of the school in the carrying out of their objectives
D. To serve as a centralizing agency in the plan of school administration

II. *Special*—Objectives in pupil training:
A. Acquisition of valuable information
1. To enrich the subject matter taught
2. To make for accuracy of thought and expression through knowledge of fact
3. To teach pupils the use of books and libraries
B. Development of a liking for clean, wholesome pleasure
1. To make reading for pleasure a habit
2. To furnish an outlet for intellectual interests, *e.g.*, hobbies, avocations
3. To foster the intellectual interests aroused in the classroom
C. Acquisition of habits of industry
1. To develop effective habits of study
2. To plan and organize school work with a view to economy of time and effort
3. To train pupils to recognize the purposefulness of school life

The library-study-room combination is not the prevailing type of library organization, because it is not suited to schools with a large enrollment and because it entails a too heavy pupil and teaching burden upon the librarian.

The following general objectives for all school libraries were recommended for adoption by the Library Department of the National Education Association in 1921:[3]

1. All pupils in both elementary and secondary schools should have ready access to books to the end that they may be trained:
(*a*) to love to read that which is worth while;
(*b*) to supplement their school studies by the use of books other than textbooks;

[3] *American Library Association Booklist*, Vol. 17, Nos. 8-9 (May, June, 1921).

(*c*) to use reference books easily and effectively;
(*d*) to use intelligently both the school library and the public library.

2. Every secondary school should have a trained librarian, and every elementary school should have trained library service.
3. Trained librarians should have the same status as teachers or heads of departments of equal training and experience.
4. Every school that provides training for teachers should require a course in the use of books and libraries, and a course on the best literature for children.
5. Every state should provide for the supervision of school libraries and for the certification of school librarians.
6. The public library should be recognized as a necessary part of public instruction and should be as liberally supported by tax as are the public schools, and for the same reasons.
7. The school system that does not make liberal provision for training in the use of libraries, fails to do its full duty in the way of revealing to all future citizens the opportunity to know and to use the resources of the public library as a means of education.

Relation of the junior to the senior high-school library. In communities where there are both junior and senior high-school libraries, an attempt should be made by the supervisor to correlate the two, so that all the pupils will be able to obtain the reading matter suited to their maturity, their capacity, and their social attitudes. As school-library service is in the main concerned with the individual pupil, it must aim to take account of the individual differences which are so marked in the adolescent child.

Three groups of social maturity are evident in pupils of the junior high-school age: (1) the pupil who still has the elementary-school point of view; (2) the pupil who is in the beginning stages of adolescence; (3) the pupil who has almost reached maturity. Much the greater number of pupils are in the second stage. The greater part of the

book collection will therefore be suitable for pupils of group two. But provisions must be made in the book collection for groups one and three. There will therefore be in the junior high-school library an overlapping of interests and a consequent duplication of books in other school libraries. For group one, there will have to be provided books which are usually found in the elementary-school library. For pupils in group three, books will have to be provided that are also in the senior high-school library. The books provided for use in connection with classroom teaching will also show the same wide range because at the junior high-school level there is such great variation in reading ability.

Some definite arrangement for progression in the course on the use of books and libraries should be made by the supervisor. The choice of subject matter, the kind of laboratory work, and the level of difficulty of the material given in the junior high-school should be comparable with the other courses offered there. The course should be designed to give the pupils what they actually will use at that level. The more difficult problems of research pupils meet in their senior high-school work should be solved there by a course that will help them to carry on their more advanced activities still further.

The organization of the junior high-school library should in point of fact conform quite closely with that of the senior high-school library. The junior high-school is, more or less, a "bridge" between the elementary and the secondary school, a means by which the child is led, through gradual, easy transitions, from the childish, dependent attitude of his earlier years to the freer, more independent thinking habits that he forms in high school. This "bridging over" function of the junior high school is evident, in the school itself, in the courses offered: the introductory science courses, which give the child an opportunity to

work out laboratory problems for himself; the projects suggested in his social science and English courses, etc., etc. In the library the function of the junior high school as a means of transition is evidenced by the widely varied choice of books mentioned above—books that will appeal to the child who has not yet outgrown the elementary school; books for those who are just beginning to develop maturer points of view, and books for those who are, in mentality, ready to enter senior high school.

Since the junior high school is the "feeder" for the senior high school, the experiences that the pupils have in contact with the junior high-school library, the attitudes and standards established, and the training in the use of books and libraries will prepare them for the use of the senior high-school library, and will be a valuable asset to them in their adaptations to the senior high-school classroom work. If the library experience of the children has been of the kind which makes for efficiency and purposeful effort, the senior high-school library has a real basis upon which to build its work. If the pupils have not had the opportunity of junior high-school library training and experience, or if this experience has been faulty or inadequate, the senior high-school librarian must build up the foundation as well as the superstructure of desirable library contacts for the pupils.

Methods of library administration. All school libraries have two kinds of administrative problems—(1) those that are a necessary part of the school routine for all the departments, and (2) those that are peculiar to the library. The librarian must use the number and kind of devices, checks, reports that the particular school employs in pupil accounting, attendance, instruction, and guidance. All phases of school administration in which the teachers of the school engage must also be undertaken by the librarian to the extent to which they fit her situation. As for the admin-

istration of the library itself, every item of administration must be studied in relation to the effect on the school community, and the kind of service which the library is to give. Library rules are essential to quick and accurate service, but they should be as few as possible. No "red tape" that keeps the school from getting the maximum of potential service is justifiable. An allowance must be made in the library for the irregular and unforeseen needs that teaching conditions at times make necessary. To be really useful in the school, the library must be so organized as to be able to respond immediately, or upon very short notice, to the demands made upon it.

To insure effective library administration, there must be a selection of the technical devices to fit the library to the school in which it exists. Technical details of library work are essential to the organization of a library and must be well and consistently carried on. Without them the library collection would be chaos. But every item in this technical work must be scrutinized closely so that no nonessentials to the particular situation be undertaken by the librarian. There must be a discriminating selection of those details and technical practices that will contribute to the objectives of the library in the school. The best types of school libraries have sloughed off the nonessentials of mechanical and administrative detail, and, like a ship stripped for action, they are immediately effective and responsive. There are in contrast, however, school libraries so cluttered up with details that they lose sight of the real purpose for which they were established.

The purely library records need to be revised to fit more nearly the school situation. These records need to be revised in order that they may show the use each classroom makes of the library as well as the use of the library as a place for recreational reading. If these records of circulation of books, books used in the library, number of

reserve collections, number of voluntary projects undertaken by the pupil, amount and kind of reading guidance, personnel work done through the library, etc., are analyzed, they will show as nothing else can what is going on in the various classrooms, and will give some indication of the work of individual teachers. If the circulation statistics are given in terms of the various classes of books instead of by classification numbers, they will mean something to the principal and teachers in the school. For instance, taking the Dewey Decimal Classification number 500, which is science: if in the statistics it were analyzed into its component school subjects (that is, 500, general science; 510, mathematics; 530, physics; 540, chemistry; 570, biology; etc.), there would be some means of knowing to what extent the various subjects represented were using the library, and that would, in turn, be some indication of the type of work being done in the classroom. It would also show where coöperation of classroom and library was ineffectual and where it was strong, and would give a basis for building up coöperation between the library and classroom work.

Equipment of the library. The first requisite for a library is adequate space for the services it is called upon to give. The library has its own special physical needs: it must be centrally located in the school, it must have good light and ventilation, must be in a place where quietness is possible at all times, and must have an adequate amount of shelf space. In addition, there must be some possibility of increasing library quarters as the number of pupils who use the library increases, and there must be provisions made for additional shelving space for the ever-increasing book collection. Unlike the classroom, the library cannot be of a standard size, because there is no numerical limit to the pupils who are to use the library; nor is there a stopping place in the building up of a library collection,

since new material is published and added each year. The school library is an ever-growing concern that cannot afford to be hampered in the development of its usefulness by the fact that the initial provisions made for its growth and expansion were inadequate.

In establishing a school library, arrangements must be made for the initial equipment, for example, shelving, catalogue case, magazine rack, bulletin boards, etc., in advance of the opening of the library. This is essential before the books, magazines, and illustrated material can be made available to the school community. What the equipment will be depends on the size of the library. Detailed information on the best available specifications for library equipment may be obtained from the report by Certain, "Standard Library Organization for Accredited Secondary Schools of Different Sizes."[4] Important as is the initial equipment is the added equipment that should be provided as the library gains in usefulness. Many libraries well established in the beginning have not lived up to their possibilities because they have been hampered by lack of additional equipment to carry on their work effectively. In addition to physical equipment, there are special kinds of supplies and blanks that facilitate the work of the library. These library supplies make for accurate records and quick service. They economize time and effort and have been proved to be especially helpful to the library situation.

The library budget needs careful study by the supervisor. It should be as flexible as possible that it may answer the changing needs of the library in the service of the school. Obviously, there must be an initial fund large enough to establish a new library. This fund should take

[4] C. C. Certain, "A Standard High School Organization for Accredited Secondary Schools of Different Sizes," *Educational Administration and Supervision*, Vol. 3, June, 1917, pp. 317-338.

care of the equipment, supplies, salary of the librarian, and of the extra help needed to get the library in running order, and it should also make provision for an initial book order large enough to make the library almost immediately useful. This book order with the additional books to be found around the school will be the material with which the librarian can at the outset serve her patrons. The book budget should allow a rapid building up of the library collection during the early years of its establishment. After the book collection is made adequate for the first needs of the school, a generous maintenance fund is necessary. This yearly appropriation for books, magazines, and visual material will be used for the following purposes:

1. New additions to the book supply
2. Replacement of books lost or worn out
3. Duplication of material
4. Keeping books in condition—mending and rebinding of books

In addition to this regular appropriation for books, there should be a fund set aside for emergencies, such as:

1. Immediate demand for new material for a new course in the school
2. The ordering of recently published reference books
3. Furnishing extra books to courses in which there is an unusually heavy registration
4. Building up the professional library in the school

Many libraries that in the beginning had the promise of the highest potential service have not reached the maximum of usefulness because the budget did not provide the funds to keep the reference collection up-to-date, the book collection alive and in good condition, or the necessary duplicates supplied. The library cannot respond immediately to the emergencies that arise in the teaching needs of the

school if it has no way of supplying the material needed. Hence the urgent need of such an emergency fund as mentioned above.

The "make-up" of the book collection should depend somewhat on the community in which the school is located, the mode of teaching in the school, and the part the library is to play in the school. But in all collections suitable for the high-school level there are fundamentals without which the library cannot function. A collection must be built. Reference books, that is, encyclopedias, dictionaries, etc., should be the first books ordered when a new library is established. These will serve as sources of factual material for all the departments of the school as well as for the basic reference material of the first-aid type for the library room. The book collection itself should be built up with great heed for the balance and proportion that a well-selected library should exhibit. The book collection should contain the following types of books:

1. *Factual:*
   - General reference books
   - Books to enrich or supplement the subject matter taught
   - Books that will assist pupils in discovering their own interests and abilities
2. *Imaginative literature:*
   - Books to be used in connection with the courses in the school
   - Books for pleasure reading in the library and for home reading
3. *Visual Material:* pictures, slides, maps, charts, etc.
   - To be used in connection with the classroom teaching
   - For library use for reference with the pupils

Measuring the results of library supervision. The supervisor must know what to observe in the school library and must be able to interpret what he sees. Proper perspective will be needed to place in their relative positions the important and unimportant. Quite as vital to a proper

understanding of the situation and a diagnosis of conditions is the evidence of good service in a library that is not functioning well. Like supervision in teaching, it is not well to diagnose conditions from a single visit or any number of visits that do not tell the whole story. For a thorough and correct diagnosis of the situation a series of library visits must be undertaken. The supervisor should postpone making a decision on conditions until he has weighed and considered all the factors under which the library must work in the school with a view to discovering the cause or causes responsible for the conditions as he finds them. For the library that is functioning well, the supervisor will make conditions for an extension of library service and usefulness. For the library that is not giving the right or the fullest possible amount of service, the supervisor will suggest and put into operation remedial work based on the particular needs of the library in question.

The library supervisor of the city school system is not an inspector. Fault-finding is not his job. His duty is to diagnose conditions in each library, to suggest definite ways in which conditions can be improved, and to discontinue practices in the library that are not serviceable to the school. The supervisor must be prepared to demonstrate his suggestions for improvement in the work. If, upon diagnosis, the supervisor finds that conditions within the school system are responsible for the failure of the library to function, he must take up these problems with the school authorities. The ultimate aim of the supervisor is to make efficient libraries more efficient and to help libraries that are functioning poorly to increase the amount and quality of their service.

The score card is an economy in gathering data upon which to diagnose from time to time the actual conditions in the library. Two such cards might well be used by the supervisor. Form A is designed to reveal conditions from

what can be actually observed in the library without explanation from the librarian. Form B is designed to show the educational function of the library from information gathered from librarian, administrator, and teachers. These forms used at the beginning of the work of the supervisor, and again after the remedial work of the supervisor has had time to bear fruit, will give a comparative basis by which the efficacy of the work undertaken by the supervisor may be measured.

SCORE CARD A

NAME OF SCHOOL .....
NAME OF PRINCIPAL ..... DATE .....
NAME OF LIBRARIAN .....

	High			Medium		Low
1. *Library Room:*						
Number of pupils in relation to space						
Attractiveness of room						
Housekeeping						
Physical condition of books						
Atmosphere						
2. *Pupil Attitudes:*						
Posture						
Attitude toward purposeful library activity						
Discipline						
Entering the library room						
Leaving the library room						
3. *Evidence of Reading-Guidance:*						
Devices for increasing voluntary reading						
Special reading guidance collections						
Special reading guidance bulletins						
Reading suggestions made by librarian						

SCORE CARD A

NAME OF SCHOOL .....
NAME OF PRINCIPAL ..... DATE .....
NAME OF LIBRARIAN .....

	High			Medium		Low
4. *Evidence of Coöperation with Classroom Teaching:*						
Reserve collections						
Special home-reading collections for teachers						
Display of work done in the classroom						
Display of voluntary projects stimulated in the classroom						
Reference work done by the librarian						
Study supervision done by the librarian						
5. *Routine and Technical Work:*						
Pupil accounting						
Details of administration						
Promptness of service						
Quality of the technical library work						
Choice of details for carrying on the work						

Remarks .....
Suggestions .....
Probable causes of existing conditions in the library .....

The items in Score Card A can be observed by the supervisor. They are objective evidences of conditions in the library and the type of work the library is actually doing. This will reveal some of the underlying causes of which the objective evidence is the result. For instance, items under heading 1 will show the physical conditions in the

library that help or hinder library service; those under 2 will show pupil attitude and use of the library; those under 3 will show the direct educational work that the library does in guiding the pleasure reading of the pupils; those under 4 will show to what extent the library coöperates with the classroom teaching in the school; and those under 5 will show something of the organization, administration, and the devices used to make the library of service. A series of cards made from observations at different times will give a composite picture of the real conditions in the library and will give the supervisor data upon which to base his remedial work. They will also furnish valuable material upon which to base conferences with school authorities and with the librarian.

SCORE CARD B

NAME OF SCHOOL .....
NAME OF PRINCIPAL ..... DATE .....
NAME OF LIBRARIAN .....

Questions	Answers
Number of pupils in the school	
Number of pupils who use the library each day	
Maximum number per hour	
Minimum number per hour	
Size of library room	
Seating capacity of library room	
Number of classroom teachers	
Number of classroom teachers who have contact with the library	
Number of experiments carried on in the school	
Number of experiments in which the library has a part	
Kinds of personnel work carried on in the school	
Kinds of personnel work in which the library coöperates	

SCORE CARD B

NAME OF SCHOOL .....
NAME OF PRINCIPAL ..... DATE .....
NAME OF LIBRARIAN .....

Questions	Answers
Number of classroom book collections	
Amount of bulletin material sent into the classroom by librarian	
Number of extracurricular activities	
Number of extracurricular activities with which the library has contacts	
Attitude of the school population toward the library	
The value of the library to the principal	
The teacher opinion of the services of the library	
The pupil public opinion regarding the library	
The number of worth-while community interests	
The number of community interests with which the library has contact	
Number of books in the library	
Number of magazines in the library	
Circulation of books for home reading	
Books used in the library room	
Books sent into the classrooms	
Current magazines analyzed for the teachers	
New books called to the attention of the teachers	
Productive work done by the librarian, *e.g.* book-lists, bibliographies, etc.	
Kind and quality of the library course given to pupils	
Library budget	
Remarks	
Suggestions	
Probable causes of existing conditions in the library	

From the information gathered on Score Card B the supervisor can discover how the library is functioning from

those who actually use the library. It will also reveal to what extent and in what way the library is being used, and will give some indication as to what form the remedial work is to take.

Types of errors usually found in library service. Score Cards A and B will reveal the errors particular to each library, and will enable the supervisor to direct each library in the way it should go. These data will take the place of any preconceived ideas of the supervisor upon the conditions in the particular library. From the score cards, one may find that some of the conditions that hamper the library are due to things over which the librarian has no control, as, for example, administrative problems in the school. Such problems as overcrowding in the library room, inadequate shelving space, unfavorable physical conditions of light and ventilation, too heavy pupil load for the library force, etc., should be brought to the attention of the principal who alone can change the unfavorable conditions. Such difficulties as lack of intelligent coöperation of teachers with the library should be taken up with the individual teachers. Common sources of irritation in this connection are: giving pupils assignments that are too vague to be carried out in the library; failure to tell the librarian of needs in time for her to coöperate with the teacher in obtaining material; failure of the teacher to inform herself of what the library possesses before a topic is assigned to the pupils; making assignments that require library coöperation without giving the librarian time to gather the material; speaking to pupils about the library in a condescending way, thus establishing in the pupils an unfavorable attitude to the library; lack of knowledge by the teacher of the available published material in her field. Under the conditions cited above, the supervisor will have to carry on remedial work with the teachers. This work will require great tact.

It is in directing the work of the librarian that the score-card data gathered by the supervisor will be found most helpful. The data give tangible information upon which to base personal conferences with the librarian, and provide the starting point for remedial work. If supervision is to be effective, supervisor and librarian must have common knowledge of conditions. With this information the underlying causes can be attacked. Modification of practices, discontinuing some and adding others, can be undertaken as occasion requires. As much of the existing procedure as is educationally sound and serviceable in the school should be continued. Procedure that fails to contribute to the objectives of the school and the library must be discarded. The supervisor must be able to suggest definite better ways of doing things. But the only way to get lasting improvement in the library is to enlist the interest of the librarian in her own betterment. If she is very weak, the supervisor must endeavor, by rigorous supervision, to increase her efficiency. Again, the supervisor must encourage those librarians who lack sufficient technical or educational background to make up their deficiencies in these respects. Very often, too, the transferring of a librarian from one school to another will be found to bring about great improvement in her work.

Individual work with librarians through personal conferences and by demonstration of work must go on in each school. For the school system as a whole, group conferences of all the librarians in the school system should be held at more or less regular intervals. There should be no group conference unless there is something worth while to take up at the meeting. Topics that will give the librarians familiarity with educational theories, methods of teaching, and teaching technique are profitable to the librarians for an intelligent understanding of their own work. Simplified methods of library technique, devices for

increasing the voluntary reading of pupils, new methods of coöperating with classroom teaching, and ways of carrying on personnel work with pupils would be interesting topics of discussion. These group meetings should be held in different buildings, and on the day of the meeting the librarians should be given the opportunity to visit the library in the school in which the meeting is to take place. This would give the visiting librarians an opportunity to see how other libraries are administered. Group meetings well carried out make for a professional attitude that is the basis for the best type of effort. Committees of the librarians should be appointed to do creative and experimental work, for example, preparation of book lists, invention of new devices for increasing the use of the library, etc. Meetings, if thoughtfully planned with the needs of the group in mind, will stimulate each librarian in the school system to make her library come up to its potential possibilities.

The efficiency of the work of the supervisor is in exact ratio to the coöperation he is able to get from principal, teachers, and librarians. He can do little to remedy the errors in library service unless he can influence the principal to make library conditions in the school favorable for library service, unless the teachers will learn to use the school library intelligently, and unless the librarian understands the educational situation in the school, knows what service that situation requires, and will bend her energies to the task of giving the necessary service.

Standards for the improvement of school libraries. Although high-school libraries are relatively an innovation, there have already sprung up many different kinds of organizations and a variety of library practices. Many of the school libraries established before 1914 were in all respects doing a fine type of educational work both directly with the pupils of the school, and indirectly in coöperating

with the educational program of the school; but the greater number of libraries were inadequately housed; their budgets were, for the most part, insufficient to maintain a workable book collection, and they were not given an opportunity in the school situation to do the best type of work. Most of these libraries were in charge of librarians without the qualifications for a teaching position. The attitude of school administrators toward the library in the school was one of indifference. In 1916 Johnston, who directed a survey of the school library situation in Illinois, said: "The aggressive campaign for better books, better library organization, and better school libraries has scarcely begun."[5] His survey revealed the fact that here and there there were school libraries doing effective work, but the great majority of libraries were not giving efficient service, nor were they in a position to give the type of service which would have educational value in the school situation.

Both the National Education Association and the American Library Association were vitally interested in the problem of school libraries, and therefore each appointed a school library committee to consider the puzzling and intricate problems that the school library was facing. These committees, in separate deliberation and as a combined committee, attempted to formulate standards for the high-school library. The work was handicapped by the scarcity of actual data on existing practices and the lack of any preconceived objectives that would fit all school situations. It was obvious that each school library would have to be adapted to its particular school situation and would have to be prepared to do the work that the school called upon

[5] Charles Hughes Johnston, in an address delivered before the joint meeting of the Departments of Secondary Education and the Library Department of the National Education Association, New York City, July, 1916.

it to do no matter what standards the joint committee might set up. This committee did valuable work in formulating elastic standards for housing, equipment, and budget, and the qualifications of librarians. No attempt was made to enumerate the functions of the library except in general way. The objectives of the high-school library could be stated only by implying that. The standards then were in the nature of minimal essentials, lacking which no library could function effectively, and were conceived as a guide to educators in the library matters common to all school libraries. It was left to the school administrators and the librarian to work out the best educational contacts for the particular school.

The work of the library committee of the National Education Association under the chairmanship of C. C. Certain came at the psychological moment for school library development. With the democratization of education and the stress that progressive education placed on educating the individual pupil came the breaking away from formal classroom routine for routine's sake. The new education required a humanizing of the curriculum, a task that could not be accomplished without the services of the library. And so the library movement took on a tremendous impetus from the new educational methods and technique that required wide range of pupil experiences in the secondary school. The work of the committees of the National Education Association and the American Library Association came in time to be useful in the organization of the new school libraries which were springing up all over the country.

Three additional educational associations, in the reports which accredited schools must fill out, have asked for information concerning the school library. The North Central Association includes in the school report to the association searching questions relating to the book supply and

the administration of the school library. In 1927 a survey was made of the school libraries in the association. This was done by means of a score card. The score card presupposes a standard for judging school libraries. The report of the North Central Association Special Committee on Libraries will be found very valuable to the supervisor of libraries and to the school principal, who are attempting to bring their own school libraries to the level of the average for schools of their own size. The Association of Colleges and Secondary Schools of the Southern States and the New England College Entrance Certificate Board have a vague statement which may be supposed to mean that a library in the accredited schools is highly desirable if not essential. The Bureau of Education in the bulletin "Accredited Secondary Schools in the United States" makes the requirement "that the school keeps up an adequate library and laboratory equipment." At the present time there are no school library standards which all schools are bound to observe. Therefore, for each library in the school system, the supervisor must make standards of potential service in the light of the needs of the particular school. But for all the libraries in a school system there can only be general standards.

Keeping up with the literature on school libraries. The librarian, quite as much as the teacher, needs to know what is going on in the teaching world, needs to have her interest in education stimulated by the forward movements in education, to feel herself a part of that great army of earnest men and women who are engaged in the most important profession in the world—that of educating the youth of the nation. It is the broad outlook and perspective which a knowledge of the progress being made both in education and in the library field gives that will keep the librarian from worshiping details for their own sake.

In order to keep up with the modern tendencies in edu-

cation and library progress, the librarian should read the current periodicals in both the educational and the library fields. At the outset this seems a tremendous task, but with wise selection and a short but regular period each week devoted to such reading, the material can be covered. Since it is not specialization but general information that is the purpose of this reading, the librarian can use her judgment in the rate of reading. Some material in the magazines will not even be read, some will be skimmed for general ideas, some will be read carefully.

The librarian should be familiar with the new books in the educational and library fields. If there is a teachers' professional library in the school, the librarian should take the opportunity which such a book collection offers of making herself familiar with educational methods, technique, and theories. Again, this seems an impossible task for the librarian already overburdened with work. But selection here is also a requisite. There are outstanding books in education, books which have influenced the teaching procedure of the country. These books are relatively few in number, and therefore this reading can be done by the busy librarian with the time at her disposal.

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CHAPTER XV

THE COÖPERATIVE CHARACTER OF DEPARTMENTAL SUPERVISION

Dependence of the organization of supervision upon scope and purposes. In accordance with the principle which states that the organization of the supervision of secondary-school subjects is dependent upon the scope and purposes of such supervision, specialists have prepared the foregoing chapters. The contributions of these specialists indicate their conviction that general supervisors can, by taking proper thought and action, add greatly to the effectiveness of the several departments of academic work. The authors indicate with equal clearness that there is no line of clear demarcation, which, with respect to secondary-school subjects, divides the work of educators into the supervisors and the supervised. Instead, supervision is a cooperative affair in which the principal's notions of the teaching of a subject may, for the general academic good, require fully as much direction and supervision as those of the classroom teacher; and, in some instances, the classroom teacher has occasion so to supervise the principal. Furthermore, a departmental teacher, even one who is not chairman of his department, often displays rare supervising powers of the sort described in this treatise. The scope of supervision here described includes the aid which may be rendered by any working group of teachers who succeed in providing means for the attainment of the best that each department can offer.

The products of each department are, in turn, dependent upon the six basic considerations set forth in Chapter I

and illustrated by the specialists in their respective chapters. Those considerations are (*1*) objectives, (*2*) pupil-teacher activities, (*3*) materials of instruction, (*4*) procedures or techniques, (*5*) standards of achievement, and (*6*) provisions for measuring pupils' attainments before, during, and after exposure to academic units. The purposes of the supervision of secondary-school subjects consist of the best conceivable plans for providing for these six considerations. The best organization for it is that which enlists the instructional staff in a coöperative venture whose purpose is to improve instruction by intelligent provision for the basic considerations which guide academic endeavor in all departments.

Supervision as a coöperative enterprise. Whether supervision is conducted within a large school system which employs a departmental supervisor for each department or within a small system where the supervising principal and one teacher form the instructional staff, the essential features of supervision are the same.[1]

In all cases supervision is conducted for the purpose of facilitating learning procedures through improved teaching procedures. Such a program requires the organization of the instructional staff for the study of the general and specific problems of the school system. For each department such organization must exist for the study and improvement of departmental matters. Teachers who neglect an opportunity so to canvass their problems cannot, even if they would, coöperate intelligently in executing a program which has been formulated by their more coöperative colleagues. Conversely, the principal who attempts to formulate a program solitarily can only with difficulty, if at all, find teachers who can and will lead their pupils to

[1] F. C. Ayer and A. S. Barr, *The Organization of Supervision* (D. Appleton & Co., 1928) for detailed accounts of supervising organization.

a realization of the principal's aims. Evidences which support these statements are found in the annals of the failures of all schools in which the instructional staff lacks integration in either purposes or procedures.

In contrast with such failures stand the successes of school systems which have organized themselves for co-operation. In Denver, for example, Newlon described the relation which the central supervisory staff, the principals, and the teachers should bear to supervision:[2]

1. *The central supervisory staff.* "There must be a clear recognition of the facts that no supervisory force is competent, without the advice and counsel of the teaching body, to determine aims and policies, and that the determination of aims and policies by a supervisory force with no participation or nominal or partial participation of the teacher is bound not only to stunt the teacher's professional growth but to stultify him personally.

2. *The principal.* "The principal must be a leader of his faculty, not only in administrative matters but also in professional thinking and experimentation. The principal must understand that he is something more than a rubber stamp. He is not a functionary merely for the relaying of information from the central office to teachers. The principal must assume leadership. He will be recognized as a leader only if he demonstrates the qualities of leadership. The autocrat is not a leader. The board and the administration must look primarily to the principal for results."

3. *The teacher.* "Any system of supervision is a failure that does not free the teacher and give her a wider opportunity for the exercise of initiative and for displaying outstanding abilities as instructor and leader. The teacher, on the other hand, who does not recognize the responsibility

[2] Jesse H. Newlon, "Reorganizing City School Supervision," *Journal of Educational Method*, Vol. 2, June, 1923, pp. 404-411.

which the board of education and the superintendent of schools and his administrative associates have for giving good instruction to the boys and girls, and who does not recognize that there must be direction or supervision in any school system, does not have a clear conception of his responsibilities to the community."[3]

In defense of this theory of supervision, Newlon maintains, first, "that by no means all of the leadership and ability of the teaching staff of any school system is to be found among the principals and supervisors. Second, that this system forces the *supervisor* to become a student of his problems. It means life for the supervisory staff as well as for the teaching staff. I have seen more than one incompetent principal or supervisor quietly resign and get out of the system or request a teaching position without any direct suggestion from any superior officer, simply because, when the staff got down to good hard study where only ability counted, and when the teachers were called upon to participate in the development of policies, the pace became painfully fast, and the only way out was through resignation, retirement, or transfer to less conspicuous work."[4]

Supervision is a coöperative enterprise, not only when a general canvass of a whole school system is under way, but also when any adequate analysis of teaching procedures is being made. The supervisor and the teacher or teachers work together in conference and in the classroom to devise and direct effective teaching and learning experiences. In fulfilling this function, the supervisor needs standards which enable him to conduct his analyses scientifically. Unless these standards are definite and objective, the super-

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[3] *Ibid.*, pp. 406 and 408.

[4] *Ibid.*, p. 409. See also Ayer and Barr, *op. cit.*, for a further elaboration and evaluation of this plan and of other plans which embody many of the same features.

visor has difficulty not only in locating items which need attention, but also in citing for the teacher the elements to which attention should be directed. If, however, supervisory matters are analyzed in terms of objective and valid items, a sound basis is laid for frankness in coöperative analyses.

Standards for the guidance of supervisory analyses of classroom activities. Standards which can be used for guiding analyses of classroom activities have been formulated by Barr and are here catalogued.[5]

One should recognize, of course, that scientific analyses by means of such standards as these depend, as Barr states, upon the validation of these items and a translation of the items into observable details. The list of items has great value, however, in focusing the attention of supervisor and teacher upon many of the essential and objective details of learning processes; for this reason these standards have particular significance in a plan of coöperative supervision. The items are classified under the following divisions:

1. The organization of the room for work
2. Provision for individual differences
3. Evidences of purposeful activity upon the part of pupils
4. Teacher's knowledge of teaching procedures
5. The selection and organization of subject matter
6. Provisions for opportunities for the social growth of pupils
7. Evidences of participation, concentration, and attention
8. Evidences of a valid method[6]

Supervision as a source of research. Research is needed in each of the six major aspects of supervision. Such research should be promoted by supervisors and, for the most part, conducted coöperatively by general supervisors and departmental specialists. The functions of the supervisor

[5] A. S. Barr, "Scientific Analysis of Teaching Procedures," *Journal of Educational Method*, Vol. 4, May, 1925, pp. 360-371.

[6] The supervisor should consult the original article for long lists of classified items.

are those of showing leadership in (1) the formulation of suitable problems for research, (2) the stimulation of research by his own position and personal power of leadership, (3) the guidance of research according to scientific method and upon the basis of what has already been done, (4) the interpretation of the results of research, and (5) the utilization and presentation of results.[7]

Types of problems for research can be formulated in any of the basic considerations of supervision—objectives, learning activities, materials of instruction, procedures, standards of achievement, or measurement. Miller, Morrison, and Reavis have, as examples, conducted research with their teachers in the organization of materials, procedures, and learning activities.[8] Their investigations have grown directly out of informal discussions with their teachers and have later assumed greater formality as the outlines of new procedures developed. In measurement, Symonds has catalogued eighty problems which he regards as significant.[9] These problems are classified into the following groups: (1) characteristics of tests; (2) new tests; (3) characteristics of mental growth of children of high-school age; (4) problems related to prediction; (5) use of tests in teaching; (6) problems relating to marks and pupil placement; and (7) the measurement of efficiency.

Examples of research already conducted in high schools may be used further to illustrate the supervisor's relation to such activity. One of the problems which invite science teachers to perennial debate and research is that of the comparative effectiveness of laboratory and demonstration

[7] *Cf.* B. R. Buckingham, *Research for Teachers* (Silver, Burdett & Co., 1925), and G. M. Whipple, "The Improvement of Educational Research" (*School and Society*, Vol. 26, August 27, 1927, pp. 249-259).

[8] *Cf.* References cited at the end of this chapter.

[9] P. M. Symonds, "Needed Research in the Field of Measurement in Secondary Education," *Journal of Educational Research*, Vol 16, September, 1927, pp. 119-126.

methods. This problem serves especially well as an example of the supervisor's possibilities in research because of the many directions into which the problem leads an investigator. Anibel found, for example, that certain pupils profited more by the lecture-demonstration method than others, and that this procedure required less time and money than the individual laboratory method. The results were not conclusive on either immediate or delayed retention.[10] When, however, one examines in detail his data or those of Nash and Phillips,[11] one finds that there are probably many pupil conditions besides "general" intelligence at work as variables in this problem. Nash and Phillips found one able pupil who, when allowed to proceed at her own rate with individual help from the teacher, lost ground between tests given at the beginning and at the end of the semester. This pupil is classified as "somewhat lazy and indifferent." Another pupil who is below average in general intelligence made a striking gain over his initially better classmates and placed himself at the head of the class with the same procedure. This pupil is said to have "unusual power of application which shows itself in all his school work." Not all investigations of this problem have been interpreted with as much caution as have the two just cited. The experienced supervisor can often save his teachers from many errors in interpretation which these mature teachers were also fortunate enough to avoid.[12]

[10] F. G. Anibel, "Comparative Effectiveness of the Lecture-Demonstration and Individual Laboratory Method," *Journal of Educational Research*, Vol. 13, May, 1926, pp. 355-365.

[11] H. B. Nash and M. J. W. Phillips, "A Study of the Relative Value of Three Methods of Teaching High-School Chemistry," *Journal of Educational Research*, Vol. 15, May, 1927, pp. 371-379.

[12] Current volumes of such magazines as the *Journal of Educational Research*, *School and Society*, and *School Review*, as well as the departmental journals cited in earlier chapters, contain many additional examples of research which has been conducted wholly or in part by high-school teachers and supervisors.

Supervision as the integration of learning and teaching activities. Supervision is conducted for the improvement of instruction. It is therefore devoted to all the fundamental aspects of learning-teaching situations. Its devotion to these situations is not, however, a devotion to each of them primarily as isolated entities. The supervisor does not, for example, confine his attention to procedures and neglect objectives, materials of instruction, and standards of achievement. Although he may, at one time, emphasize measurement, and again, the choice of effective pupil-activities, his skill as a supervisor includes the ability to envisage all the basic aspects of instruction even while he concentrates his attention for a time upon any one of them.

The able supervisor recognizes also that a learning-teaching situation is one in which the personal qualities of all the individuals concerned in the process are significant. Few educative processes exist which cannot be utilized unsuccessfully by certain teachers or supervisors and successfully by others. No small part of the desirable personality of the supervisor and the teacher is that which enables one to receive as well as give counsel enthusiastically. Likewise, no small part of a supervisor's success lies in his capacity so to integrate activities and personal qualities that the right thing can be done effectively.

Finally, therefore, supervision, at its best, effects an integration of all the forces of learning and teaching. The supervisor, in view of pupils' needs, considers the educational effects of all departments and provides for each pupil an interdepartmental series of activities which enables the pupil, whose work lies in several departments, also to integrate his own learning activities. The specialist is, by implication and in fact, a departmentalized educator; the supervisor is, by the same token, a generalist who views the total offering of the school. Supervision supplies the spe-

cialist, who is equipped with departmental techniques and subject matter, with the counsel of a generalist, who is equipped with interdepartmental techniques and interrelationships of subject matter.

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